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Executive Summary

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Community Activity Center Concept

An Army post is like a city. The quality of life is dependent on each person having a sense of identification with his or her community - the whole installation, and the troop unit or family neighborhood. This is important for maintaining morale and supporting the Installation Commander in fulfillment of the post mission. The placement and character of community programs and facilities can greatly affect the sense of community.

The Community Activity Center concept is that of grouping community facilities to build or reinforce a pattern of community life on post. This means bringing together Morale Support Activities and other morale, welfare, recreation and community support programs so that facilities compliment each other, creating a lively center of activity (see figure 1 - 1). Functions previously operated and accommodated independently are housed in a shared Center consisting either of a single building or related complex of buildings. Community Activity Centers serve the entire post population, including troops and families. They can achieve improved program effectiveness, coordinated operation, savings in maintenance and operational costs, and more efficient staff utilization.

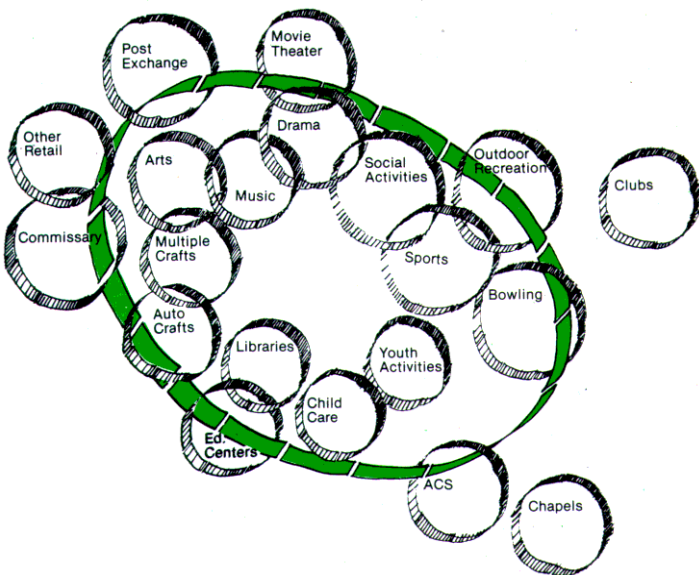


Figure 1 - 1 Community Activity Center Concept

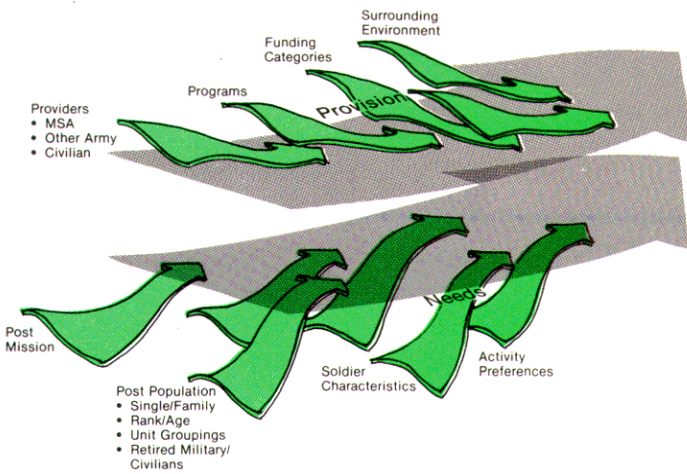


Figure 1 – 2 Responsive to Local Factors

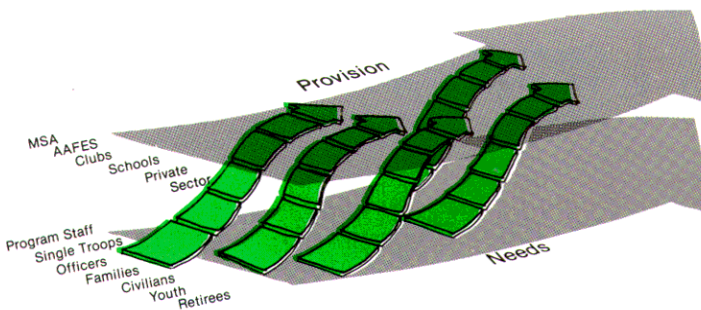


Figure 1 – 3 Continuous Development

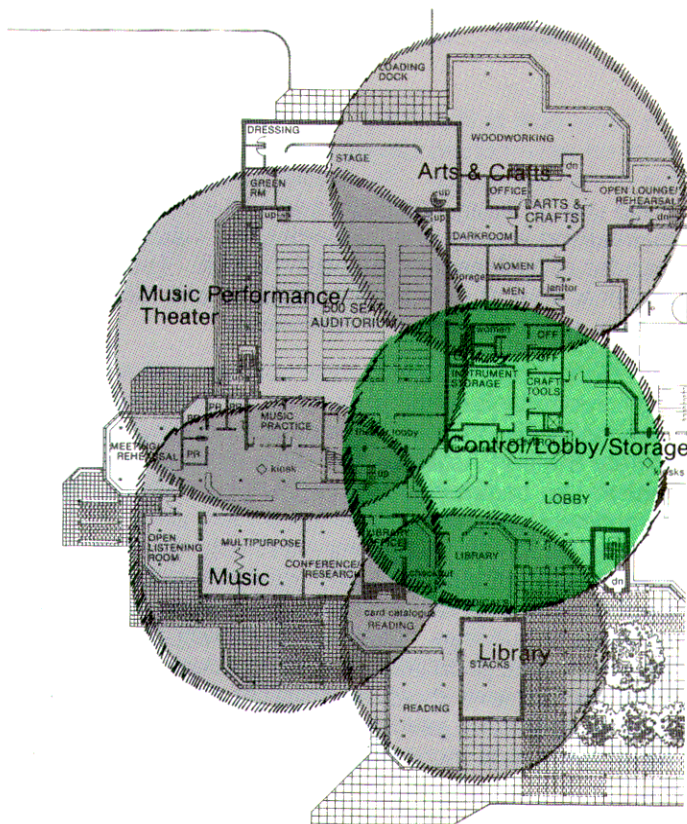


Figure 1 – 4 Consolidation

1 - 2

Planning Principles

The role of Morale Support Activities in developing the community system is to stimulate, coordinate and support the activities which build a sense of community. The planning of this system, and the development of Community Activity Centers, should be based on the following key principles:

a. Responsive to Local Factors. Providing good community life requires coordination among, and response to, many factors to achieve an appropriate local pattern. These factors include the user needs of the diverse groups within the population, their activity preferences as they change over time, the characteristics and evolution of the post mission, and the multiplicity of provider organizations which must be involved (see figure 1 - 2).

b. Continuous Development. Development of Community Activity Centers is a continuous and evolving process directed toward providing the programs, services and facilities that best suit the needs of the community. A community framework is required to guide the development of the community system, and to enable it to respond to shifts in needs and available resources. The community system must be designed with flexibility in order to accommodate future requirements. This flexibility may be achieved through the additive, phased construction of facilities. (see figure 1 - 3).

c. Variety and Personal Choice. People's quality of life and their ability to grow are dependent on the opportunity to make choices, particularly in leisure-time activities. To maximize this potential, the community system must provide a mix of functions from which individual users can choose. This mix of activities should be highly visible, convenient and fit easily into a pattern of daily life.

d. Consolidation. Suitable programs previously operated and accommodated separately should be consolidated as much as possible. This kind of Community Activity Center will enable more programs to be provided over longer hours for the same cost. In particular, this will achieve: both initial and long term facility cost savings, by eliminating duplication of services; staffing economies; coordination, cross-fertilization and improvement of programs; increased program use, availability and convenience for all installation population groups; and the development of the sense of community (see figure 1-4).

1 - 3

Design

a. **Types of Community Activity Centers.** MSA and other community facilities are divided into two broad categories: specialized and consolidated. Specialized facilities are oriented to the needs of a single program. Consolidated facilities are designed to accommodate multiple, coordinated programs. These consolidated Community Activity Centers are further divided into two types:

(1) Main Post Centers. These accommodate all or most MSA functions which serve the entire post. They are often located together with facilities such as the main exchange, commissary, other post-wide commercial and community service facilities (see illustration, figure 1 - 5). They provide a central focus for post life, a function similar to that of the downtown in a small city or town. Main Post Centers may be single structures or complexes of buildings which individually may be specialized.

(2) Local Centers. These serve individual housing or population areas and can be programmed for troops, families, or both groups. They provide a focus for the local neighborhood within walking distance, and neighborhood-scale leisure, commercial and service activities. Local Centers vary in size and in the number of people served. They may be small and include primarily non-specialized activities, or larger and include many specialized activities (see examples in figure 1 - 5).

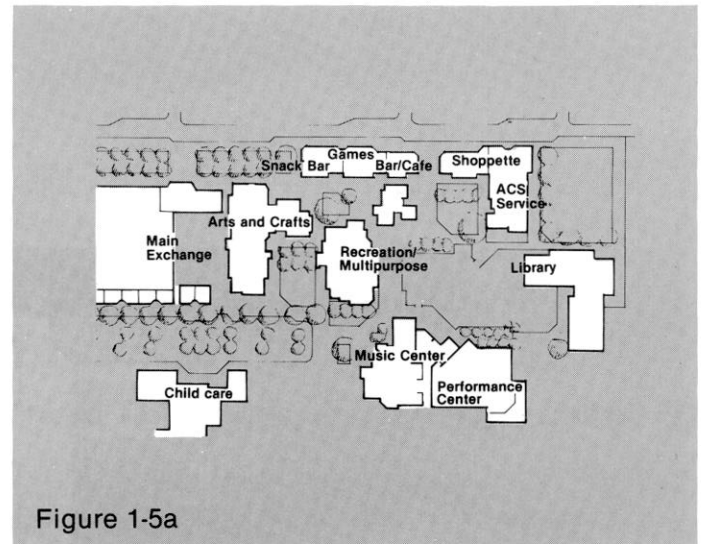


Figure 1-5a

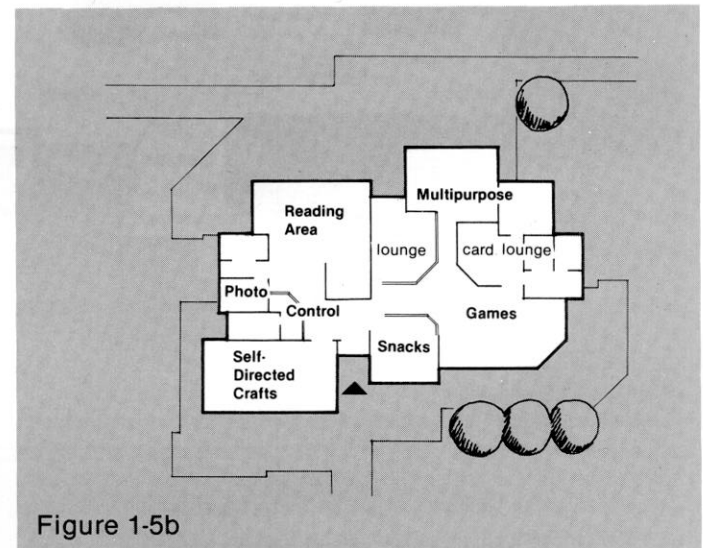


Figure 1-5b

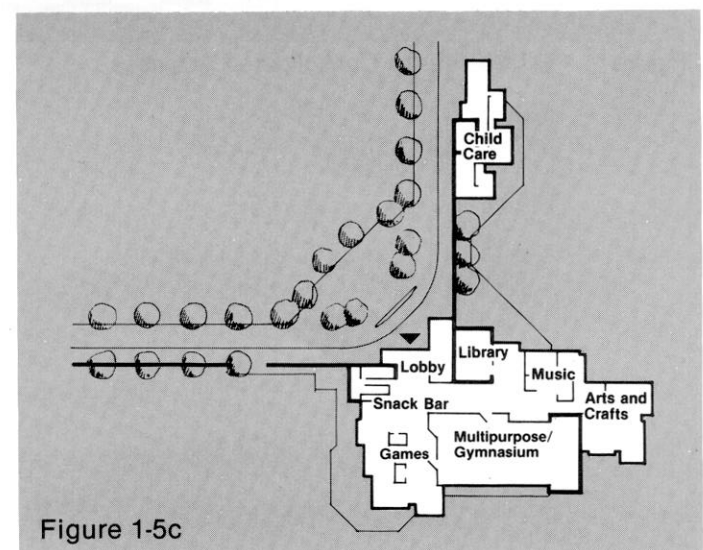


Figure 1-5c

Figures 1-5a, 1-5b, and 1-5c
Types of Community Activity Centers

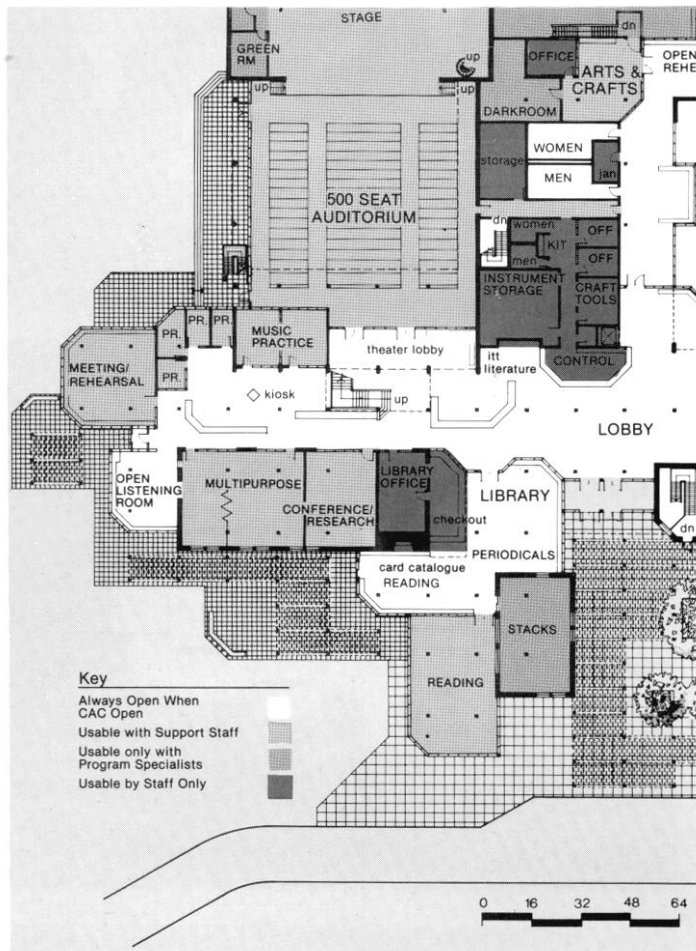


Figure 1 – 6 Design for Consolidated Activities

b. Design for Consolidated Activities. Consolidating activities encourages the growth of community life centers by permitting mutual reinforcement between activities. Design for consolidated activities involves sharing parts of activity spaces with each other, and achieving openness and visibility between them. The guidelines for consolidation address the specifics of what this means for the MSA and other community activities, which functions should be consolidated, and how relationships between them can be accommodated and operated. They help the design of facilities where activities are more accessible, visible and open to each other, while providing for more effective supervision by fewer staff.

These goals are achieved by dividing the functional spaces of the Community Activity Center into zones, to better understand which should be kept separate and supervised, and which can be shared and open. The four zones (illustrated in figure 1 - 6) are:

- (1) **Always Open** - areas open and accessible at all times when the Center is open. No supervision by a program specialist is needed.
- (2) **Usable With Support Staff** - areas that are controlled by support staff not necessarily within the same space. Again, no supervision by a program specialist is needed.
- (3) **Unable only With Program Specialists** - areas which can only be used with the supervision of program specialists.
- (4) **Usable by Staff Only** - spaces to be used by staff only, never for users.

c. Illustrative Designs. Case studies of community framework planning and Community Activity Center designs are presented in Chapter 6 for six hypothetical installations, with designs illustrating a range of CAC facility types. These designs are not definitives to be used directly at other posts. Rather, they illustrate the application to specific local situations, the planning principles and process, programming criteria, and design considerations presented in this Design Guide. Prototypical designs for Community Activity Centers for remote sites and small populations are also presented in Chapter 6.

2

Introduction

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2 - 1

Purpose

a. Development of the Community System. The purpose of this Design Guide is to provide guidance for the development of the community system for the installation. It addresses the entire process for developing community facilities to fulfill an installation's needs, from post-wide planning through facility operation (see figure 2 - 1). It also guides the development of Community Activity Centers (CAC's) - consolidated facilities for Morale Support Activities and other community programs.

b. Planning, Programming and Design. This Design Guide provides direction for three distinct steps in the community development process: planning, programming and design. It outlines considerations for post-wide planning of a system of community facilities, for inclusion in installation masterplans and military construction programs. It provides criteria for programming individual Community Activity Centers - the activities to be accommodated and their design requirements. It also gives basic criteria for initial facility design, for new construction as well as renovation of existing buildings. For detailed design, reference is made to a series of Design Guides for specialized facility types. The criteria in this guide are also useful for the review and evaluation of designs, and for assistance to program personnel in operating the facilities.

c. Local Consideration. Each installation has different potential for community life, which must be developed locally. This guide is designed to stimulate local thinking about the community needs, appropriate programs and facilities to serve them. It does not provide a preconceived Community Activity Center design, nor a definitive post-wide pattern of facilities. Although illustrative designs are included, they are not intended as definitive designs. The variables of programs provided at each installation, modes of operation, existing facilities, functions included in each CAC facility, and local site requirements, are far too numerous and complex to permit standardized solutions.

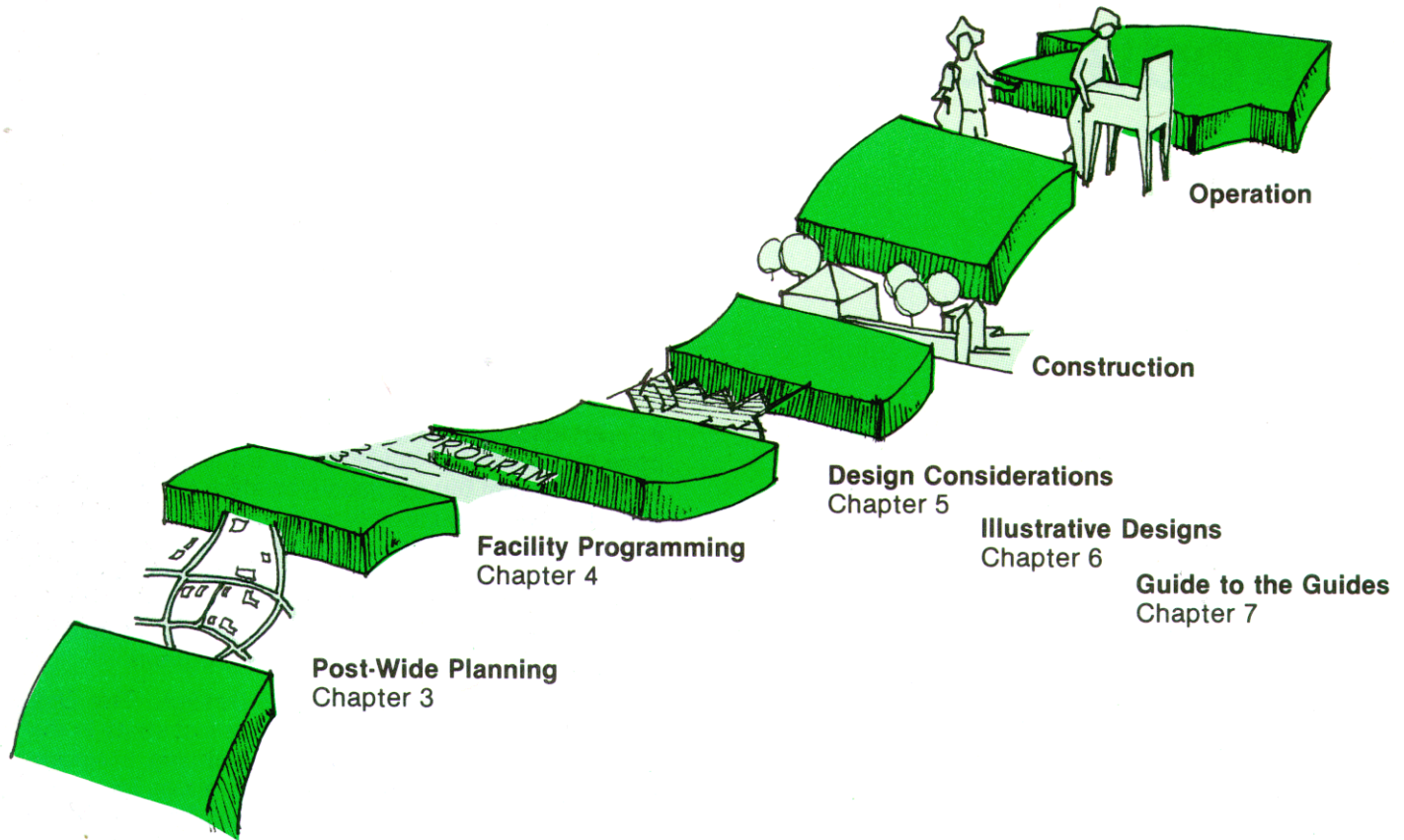


Figure 2 – 1 Developing the Community System

This Design Guide outlines a process for each installation to plan, program and design its community facilities in response to local population and program needs, as they change over time, based on local decisions by the installation staff. Procedures are provided for involving the appropriate people at the installation in its planning for and assembling the required information. Standards and illustrative examples are presented for consideration by the responsible parties in developing their project requirements and designs. While the Design Guide provides general planning principles and basic criteria for programming the design of Community Activity Centers, only local installation personnel can identify the unique requirements and design parameters of specific programs and sites.

2 - 2

Format

The organization of this guide follows the major steps of planning, programming and design of community facilities (see figure 2 - 1). It is designed to assure local input into the development of requirements and solutions responsive to the local needs of each installation.

Chapter 1. Executive Summary. Summary of the major points in the Design Guide.

Chapter 2. Introduction. The purpose, format and use of the Design Guide.

Chapter 3. Planning. The goals and principles upon which the community planning process should be based; step-by-step procedures for planning the community framework; and individual project development procedures and responsibilities.

Chapter 4. Facility Programming. Functional and space programming for Community Activity Centers, oriented primarily to Morale Support Activities, with more general considerations concerning other Morale, Welfare and Recreation functions.

Chapter 5. Design Considerations. The design implications of consolidation and other design goals, and an approach for design of consolidated facilities, for both new construction and reuse of existing facilities.

Chapter 6. Illustrative Designs. Case studies of community framework planning and Community Activity Center designs for six hypothetical posts, illustrating a range of CAC facility types; not definitives to be used directly at other installations, but illustrative applications to specific local situations of the planning principles, programming criteria and design considerations of this Design Guide. These include prototypical programs and designs for CAC's for remote sites with populations of 250 and under.

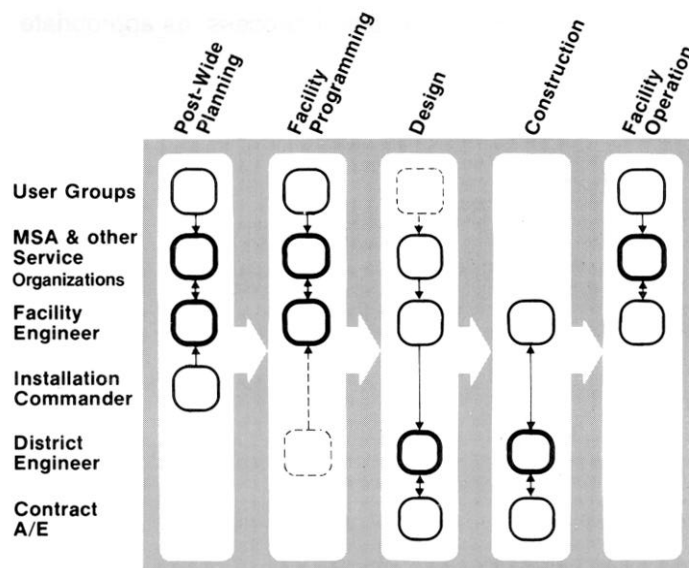
Chapter 7. Space Criteria: A Guide to the Guides. A reference catalog of space and relationship criteria for individual community facility types and their component areas, excerpted from individual facility Design Guides and the space authorizations of the DOD 4270.1-M Construction Criteria Manual.

2 - 3

Responsibilities

a. Participants in the CAC Process. A sense of community can only be developed locally, and local involvement in planning is critical. This Design Guide is designed for use by all the major participants in the community development process: the users of the services and facilities, the Morale Support Activities staff and other service organizations involved in the community system, the Facility Engineer and Masterplanner, the Installation Commander, District and Division Engineers, the Major Command, and contracted architect/engineer firms. Figure 2 - 2 outlines the major steps in the community development process and indicates the roles for each participant at each step. A more detailed explanation of the planning process and the roles of the participants is presented in Chapter 3, Planning, and at the beginning of each chapter of this Design Guide.

b. MSA and Other Service Organizations. The role of the Morale Support Activities officers and staff, and other community system organization personnel, is critical to the success of this process and to Community Activity Centers. They have the most comprehensive understanding of the population's needs and the programs that should be provided. They also can best project how programs might work in a consolidated CAC



Note: Bold outline boxes are primary actions required, others are support/responsive

Figure 2 - 2 Participants in the CAC Process

facility, and will eventually be responsible for their operation. This explains these participants' primary role in post-wide community planning and facility programming, and their input and review role in facility design, as indicated in figure 2 - 2.

It is important that the set of service organizations involved in the process be as inclusive as possible from the outset, in order to develop a truly comprehensive community system. These include not only MSA, but Army Air Force Exchange Service (AAFES) for post exchange and other retail services, ACS for child care and for personal and family assistance services, the commissary, the club system, and possibly many others such as the chaplain, local school system and private off-post providers. Chapter 3 further discusses the range of participants, and mechanisms such as coordinating committees, for their involvement in the process.

c. User Involvement. The users of Community Activity Centers - the soldiers, their families, officers, youth, eligible civilians - should be involved in the planning, programming, design and operation of the CAC facilities to the maximum extent feasible. These people can provide a unique understanding of the needs for community facilities and a valuable perspective on their operation. In addition, involvement in creating the community system will increase their sense of commitment to it, and the likelihood of success for its programs and facilities. Their participation may be organized through existing community groups or through specially formed user committees for the community development process, as appropriate to each post.

2 - 4

References

The following references are important in understanding the functions of Community Activity Centers, the procedures for their planning, design and development as part of military construction programs, and the records to be transferred to the using service upon completion of the project.

a. Functional Needs

- | | |
|----------|---|
| AR 28-1 | Welfare, Recreation, and Morale; Army Morale Support Activities |
| AR 608-1 | Army Community Service Program |

b. Planning and Project Development

- | | |
|--------------|---|
| DOD 4270.1-M | Department of Defense, Construction Criteria Manual |
| AR 210-20 | Master Planning for Army Installations |
| AR 415-15 | MCA Program Development |
| AR 415-17 | Empirical Cost Estimates for Military Construction |
| AR 41520 | Project Development and Design Approval |
| AR 415-35 | Minor Construction |
| TM 5-800-3 | Project Development Brochure |
| TM 5-803-1 | Installations Master Planning Principles and Procedures |
| TM 5-803-6 | Installations Site Planning of Community Centers |

c. Design

- | | |
|-----------------|--|
| DG 1110-3-110 | U.S. Army Libraries |
| DG 1110-3-116 | Chapels and Religious Education Facilities |
| DG 111 0-3-1 20 | Music and Drama Centers |
| DG 111 0-3-1 24 | Arts and Crafts Centers |
| DG 111 0-3-1 26 | Auto Crafts Centers |
| DG 111 0-3-1 28 | Physical Fitness Facilities |
| DG 1110-3-132 | Recreation Centers |
| DG 111 0-3-1 38 | Dependent Youth Activity Centers |
| DG 1110-3-140 | Child Development Service Facilities |
| TM 5-803-10 | Outdoor Sports Facilities |
| TM 5-803-12 | Outdoor Recreation Facilities |

d. Completion Records

- | | |
|-----------|--|
| AR 415-10 | General Provisions for Military Construction |
|-----------|--|

3

Planning

3 - 1

Using This Chapter

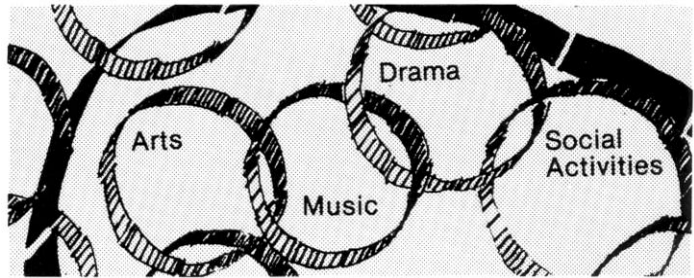
This chapter guides the planning of the post-wide community system. It presents the goals and principles which should underlie the planning and development process. Then it provides step-by-step guidance for planning of the Community Framework, which coordinates development of the community service system and Community Activity Centers. It also describes the project development process for individual community facility projects and the responsibilities of the multiple participants in this process.

The steps presented in this chapter are important to all participants in community framework planning and project development. These include the Facility Engineer and Masterplanner, the Morale Support Officer and staff, all other organizations involved in the community system, and representative user groups served by the community system. Roles for each are indicated in this chapter. The efforts directly affect the masterplanning process (see AR 210-20 and TM 5-803-1 for detailed guidance) and provide input to development of the Project Development Brochure and DD Form 1391 for specific projects.

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3 - 2



Planning Principles

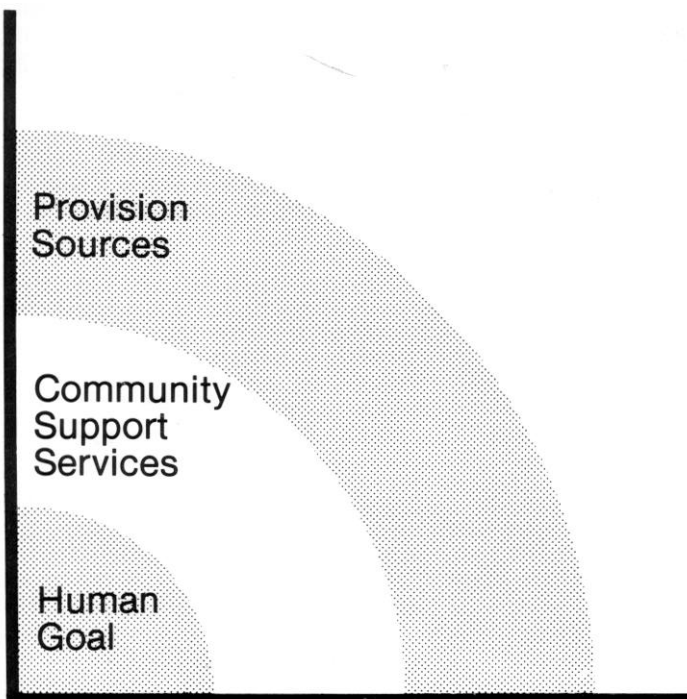
The planning of the community system and the development of Community Activity Centers should be based on the following key principles:

- Creation of Community
- Responsive to Local Factors
- Continuous Development
- Variety and Personal Choice
- Consolidation

a. Creation of Community

(1) Quality of Life. The mission of Morale Support Activities (MSA) is to support the Army's "Human Goal": to enhance the Quality of Life of soldiers and their families by providing meaningful community support services which increase individual readiness, pride in service, a sense of belonging, and public support of the Army. Morale Support Activities contribute to providing a total post community: accommodating off-duty aspects of the lives of military personnel and their families, and helping them continue their personal development. This role is an essential part of maintaining morale and supporting the Installation Commander in fulfillment of the post mission.

(2) Community for Whom. To support the soldiers' Quality of Life Morale Support Activities and the other MWR programs must provide a sense of community for all the individuals on an installation. They must accommodate the differing life styles and needs of single troops, males and females, married soldiers, NCO's and officers, wives and youth, retired military and eligible civilians. It is the role of MSA to stimulate, coordinate and support the activities which build community feeling, fostering a sense of sharing between all the members of the community, identification with the post and its population, and opportunities for enrichment of daily life.



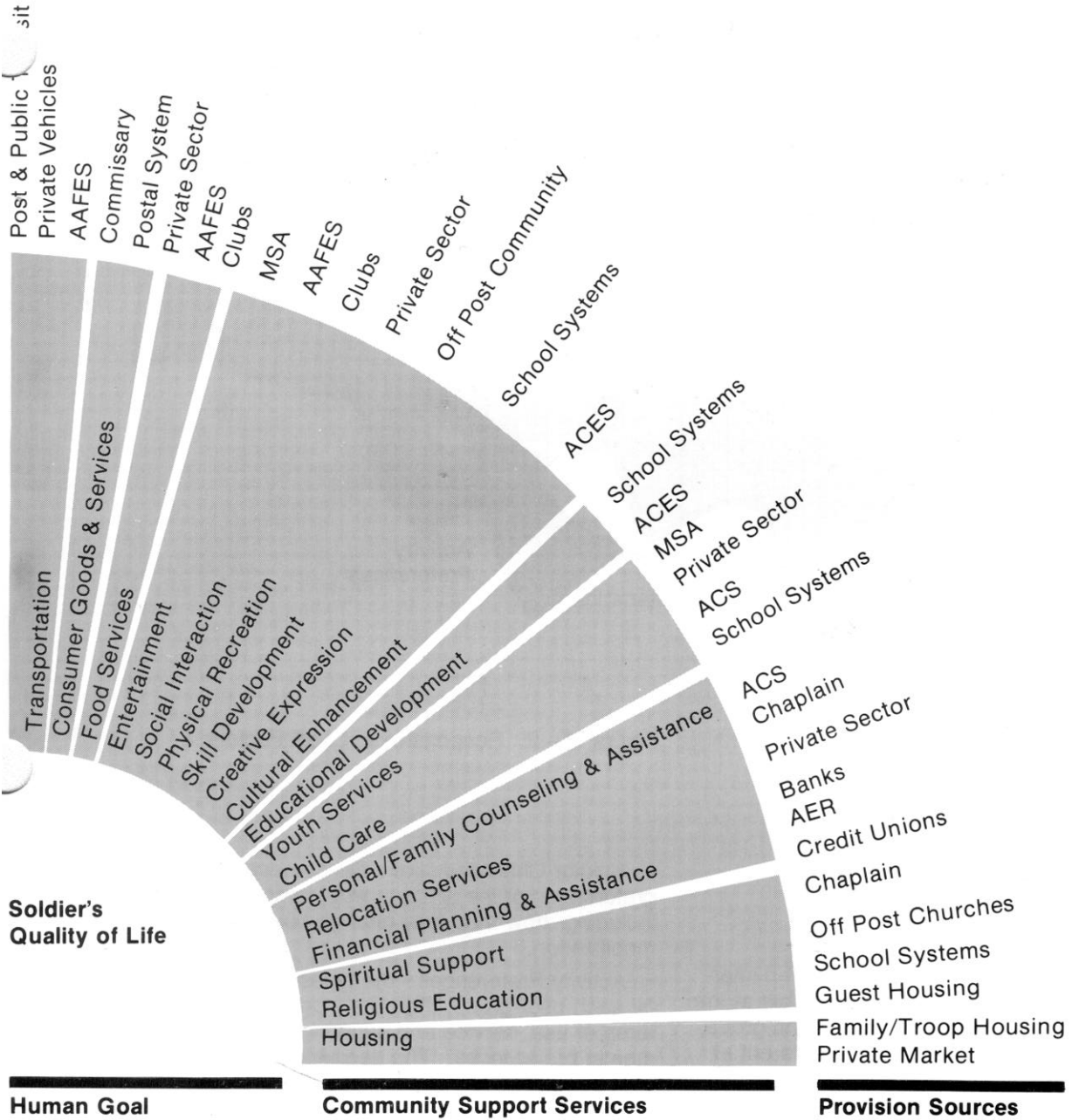


Figure 3 - 1 Elements of Community Provision

(3) Who Provides. A community grows in multiple ways and through the efforts of many participants. Enhancing soldiers' Quality of Life and providing a sense of community are not the mission of MSA alone. A broad array of community support services are involved (see figure 3 - 1). Significant roles are played by the other Morale Welfare and Recreation (MWR) programs, the Post Exchange system, clubs, Army Community Services, commissary, Continuing Education System, Chaplain, housing services, transportation systems, and many others. Understanding the relationships among these services and their potential for integration is basic to planning the community system.

The civilian community is also a significant provider of community support, for the soldiers' life extends beyond the installation to a broader community. Thus, community services and private sector activities in the area surrounding a post - local school systems, churches, parks, off-post housing, retail services, restaurants, recreation and entertainment services, and many others - are included in the array of provision sources. When conveniently available to military personnel, these services provide alternatives to MWR programs and may reduce the need for provision by Army sources. Many of these civilian providers may also serve on-post, such as private banks or franchised food services.

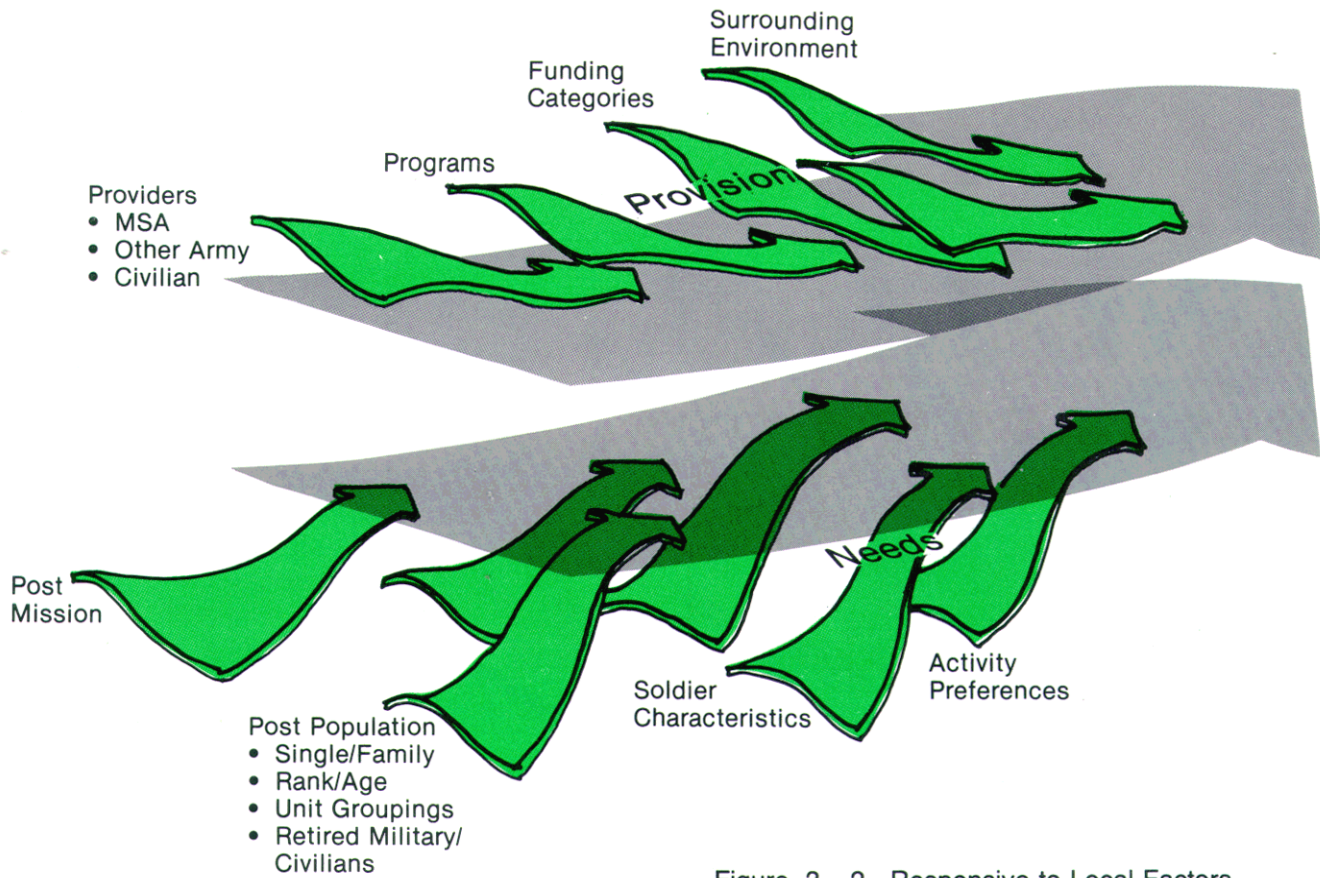


Figure 3 – 2 Responsive to Local Factors

b. Responsive to Local Factors

Good community life is the product of coordinated interaction among numerous elements: the individuals at the post, the service providers, the military command group, the local environment. These elements are different at each installation, and tend to change over time. The planning process must be responsive to this multiplicity of factors and their inherent changeability, and must provide solutions to meet the individual needs of each post (see figure 3 - 2).

(1) Users Needs. The needs of the users of community programs and facilities must be understood and reflected in the planning. Significant factors affecting these needs include:

- Post Population - the size of the post population, present and future, and whom it includes. Different population groups will have different needs: enlisted personnel, NCO's and officers; single soldiers and families; military units; men and women; preschool, juvenile, and teenage dependents; retired military and authorized civilians; personnel of different educational levels and backgrounds; geographic groupings on post.

- Soldier Characteristics - the characteristics, needs and preferences of the soldiers who comprise the Army, including how they may change during times of military mobilization.
- Activity Preferences - the types of activities preferred by each user group, their likely program utilization, patterns of use, service and support needs, and environmental preferences. The degree of transiency of the post population will affect these preferences.
- Post Mission - the implications of different post missions for post population and characteristics. For example, installations may range from a large infantry post with a preponderance of young soldiers, to an intelligence unit with many highly educated senior military and civilian personnel, to an isolated station with small population and no dependents.

(2) Multiple Providers. A multiplicity of organizations provide community services, as illustrated in figure 3 - 3. These all must be involved and responded to in the planning process: MSA and other MWR programs, each with its multiple program divisions and funding categories; other military organizations on post; and civilian off-post sources, which will vary with the surrounding natural or urban/rural environment, and with the availability to military personnel of commercial, public and other services.

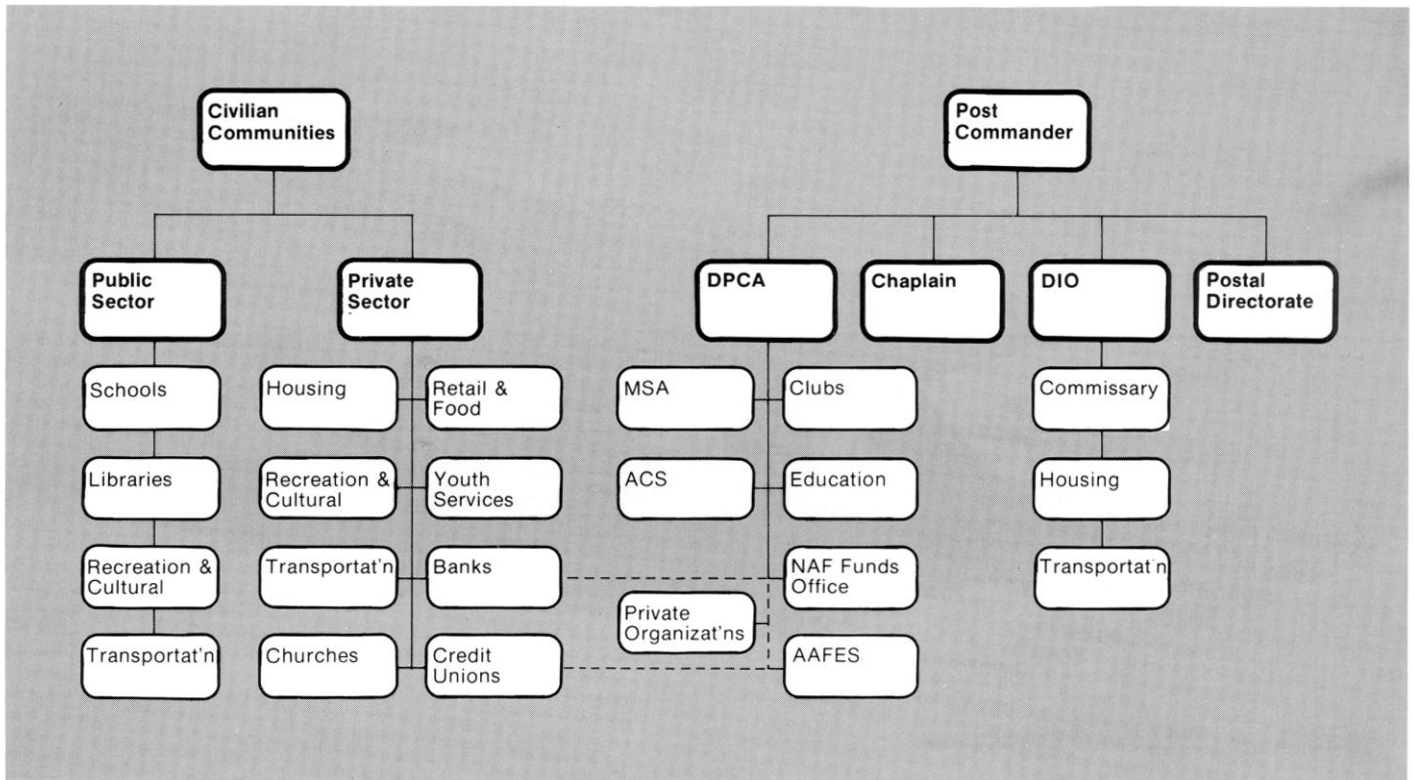


Figure 3 – 3 Typical Community Provider Structure

Morale Support Activities include Physical Activities (outdoor recreation and sports), Library Activities, and Community and Skill Development Activities (social activities, music, drama, art, multiple crafts, auto crafts, and youth activities). Morale Support facilities may be constructed with Appropriated Funds, under the Military Construction, Army (MCA), Minor Military Construction (MMCA), Operations and Maintenance (OMA), Family Housing and other programs, or with Non-Appropriated Funds (NAF) - each with its own scope, requirements, and approval processes.

(3) No Standard Pattern. There is no standard, ideal pattern for provision of community services or planning of Community Activity Centers. Each installation must develop its own, in response to the local population, needs, programs, and providers. The pattern will have to be modified as local needs and resources change over time.

Similarly, there should be no standard design for CAC facilities. The illustrative designs in this Design Guide should not be used as definitives. They were developed to meet specific needs at specific locations, applying the planning and design principles set forth in this guide. Numerous variables affect each CAC - different users, program and activity emphases, existing facilities, site

topography - all requiring different design accommodation. Local judgments and interpretations, guided by the considerations and models in this Design Guide, will produce better community program organization and facilities to meet local needs.

(4) Local Involvement in Planning. A mechanism is needed to coordinate the numerous parties involved in decision-making and provision of community support services. The people directly responsible, with the best understanding of the needs and services, should be involved in the planning. This should include not only the using agencies, facility engineers and planners, but also representatives of the users themselves. A coordinating committee should be organized at each installation to ensure the appropriate input of all these participants. Special provider and user sub-committees may also be formed to support this effort. These committees may utilize existing bodies like the masterplanning council and troop advisory councils, or be specially organized for this purpose. This involvement should continue from planning to project development, design, and operation, with the organization of the committees changing as appropriate to each stage.

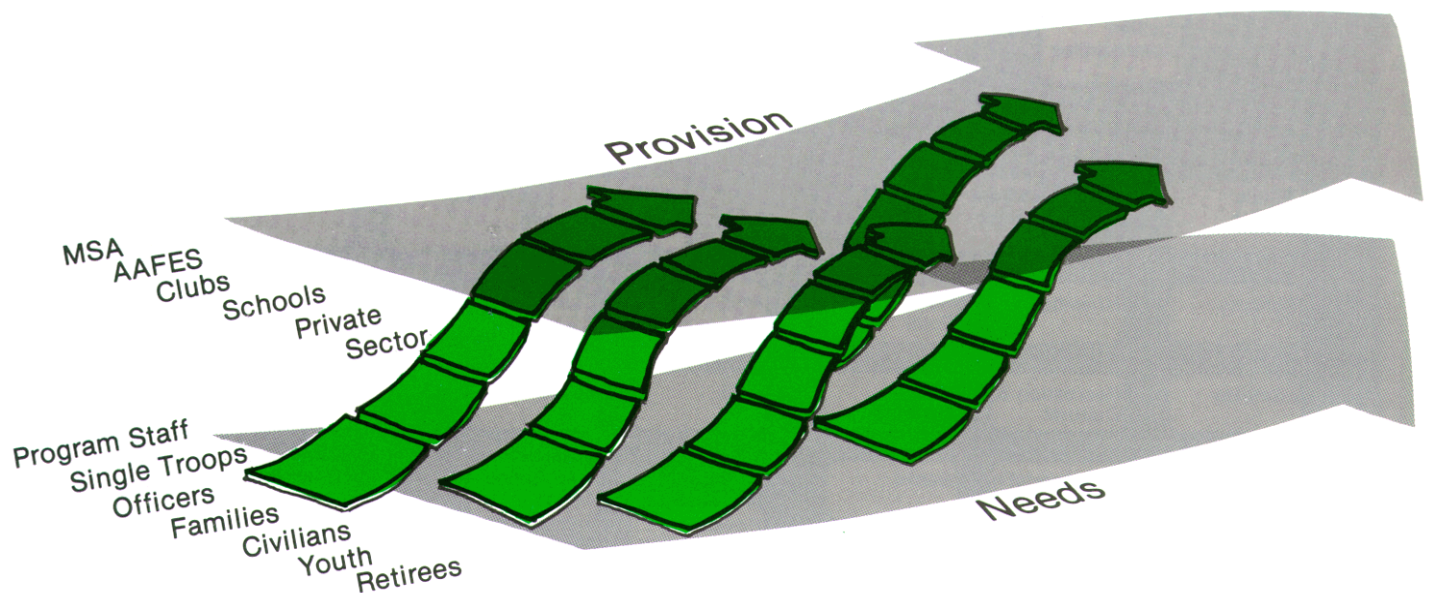


Figure 3 – 4 Continuous Development

c. Continuous Development

The development of community support programs and facilities is a continuous evolving process. The users' needs and the availability of program resources change over time. The community system must be continuously adapted to best serve the local needs, given the available resources.

This development of a community system can be seen as the relationship of two processes continuing over time (see figure 3 - 4): the needs of the community for a variety of services, activities, and other supports; and the *provision* of programs and facilities to meet those needs. These needs can be met in a variety of ways through different sources of community support such as MSA, AAFES, ACS, clubs, schools or the private sector.

These processes are linked by the development of individual programs and facility projects. These developments arise in response either to continuing needs or to changes in needs or provision potentials, such as a new post mission and population to serve, changing activity preferences among users, initiation of a new funding program, or a shift in funding priorities with a new fiscal year.

(1) Community Framework. Given the continuous nature of the community development process, the post needs a Community Framework to guide the development of community services and facilities, which will enable it to respond to the shifts in needs and resources over time. The Community Framework (see figure 3 - 5) is part of the post's masterplan, and provides the basis for specific project development, in the context of the overall community system. It includes consideration of all Morale Welfare and Recreation programs, but focuses on Morale Support Activities.

(2) Sequential Construction. Plans for Community Activity Centers and other community facilities should be designed to be built sequentially over time. Plans should allow parts of facilities to be built independently. Community facilities may be included within buildings primarily for other functions, or be built as additions to or renovations of other facilities. The designs should be flexible, to accommodate construction from different funding sources.

Planning for phased construction is essential for effective realization of the Community Framework. Several development strategies may be needed. For individual facilities, the prospect of phased construction requires preliminary architectural masterplanning to set the relationships between building elements to be designed in separate

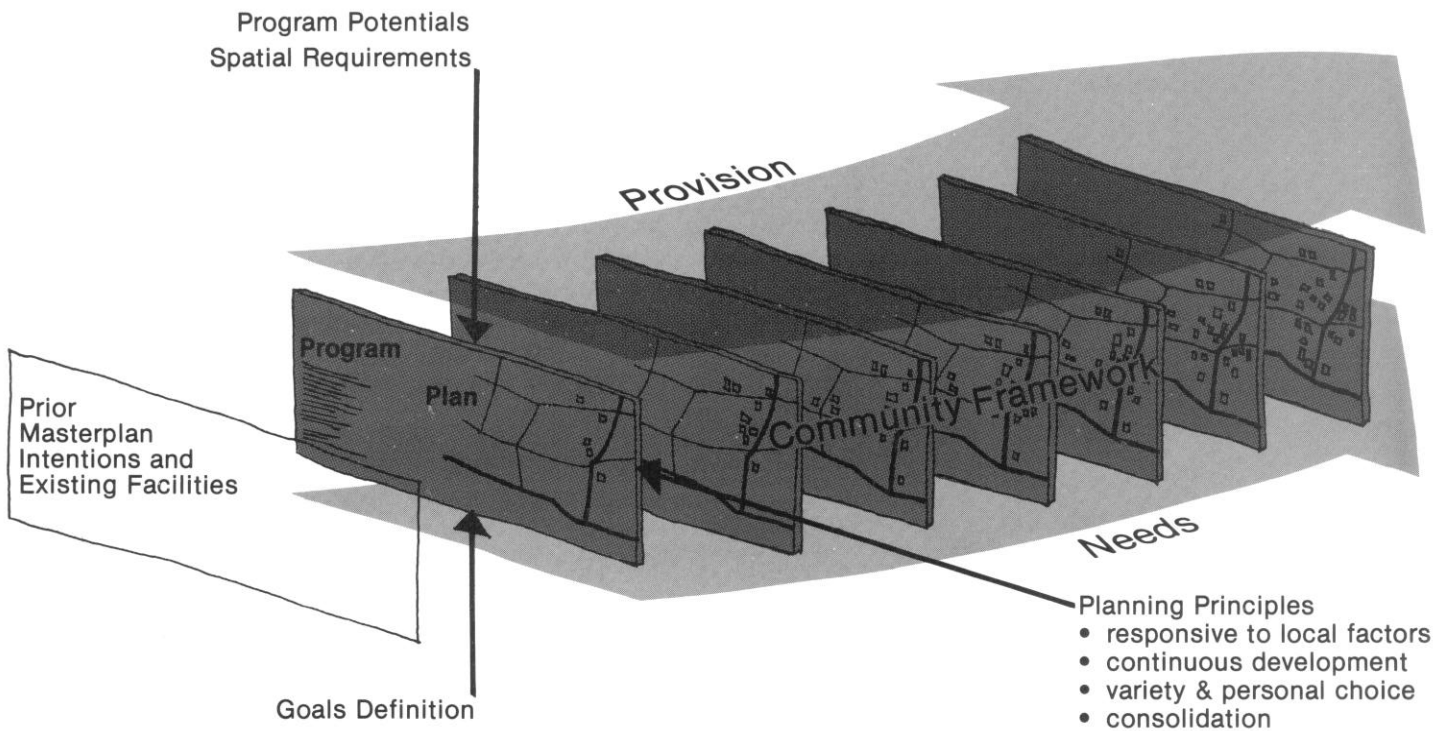


Figure 3 – 5 Community Framework

stages. The phasing of construction allows selected facilities to be operable during different stages of completion.

(3) Existing Facilities. The continuous development process emphasizes the importance of existing MSA, commercial, community service and other facilities on post. Many of these facilities are in good condition and will not need to be replaced for years; or they may be renovated and continue to be used for somewhat different purposes. Post-wide community centers - including such facilities as main exchanges, commissaries, bowling centers and major MSA facilities - have already been established on some installations, and form the natural focus for developing CAC Main Post Centers. Existing gymnasiums and physical fitness centers often are located in the troop billeting areas, and provide a logical starting point for development of CAC Local Centers. Branch PX's and troop mess halls may also serve this focal function.

How best to utilize these existing facilities, in light of the Community Framework considerations, needs careful planning. Small additions, modifications, infill construction, or building on existing facilities, may be more readily approved and funded than wholesale replacement with new construction. These considerations will affect the distribution of services and the location of facilities.

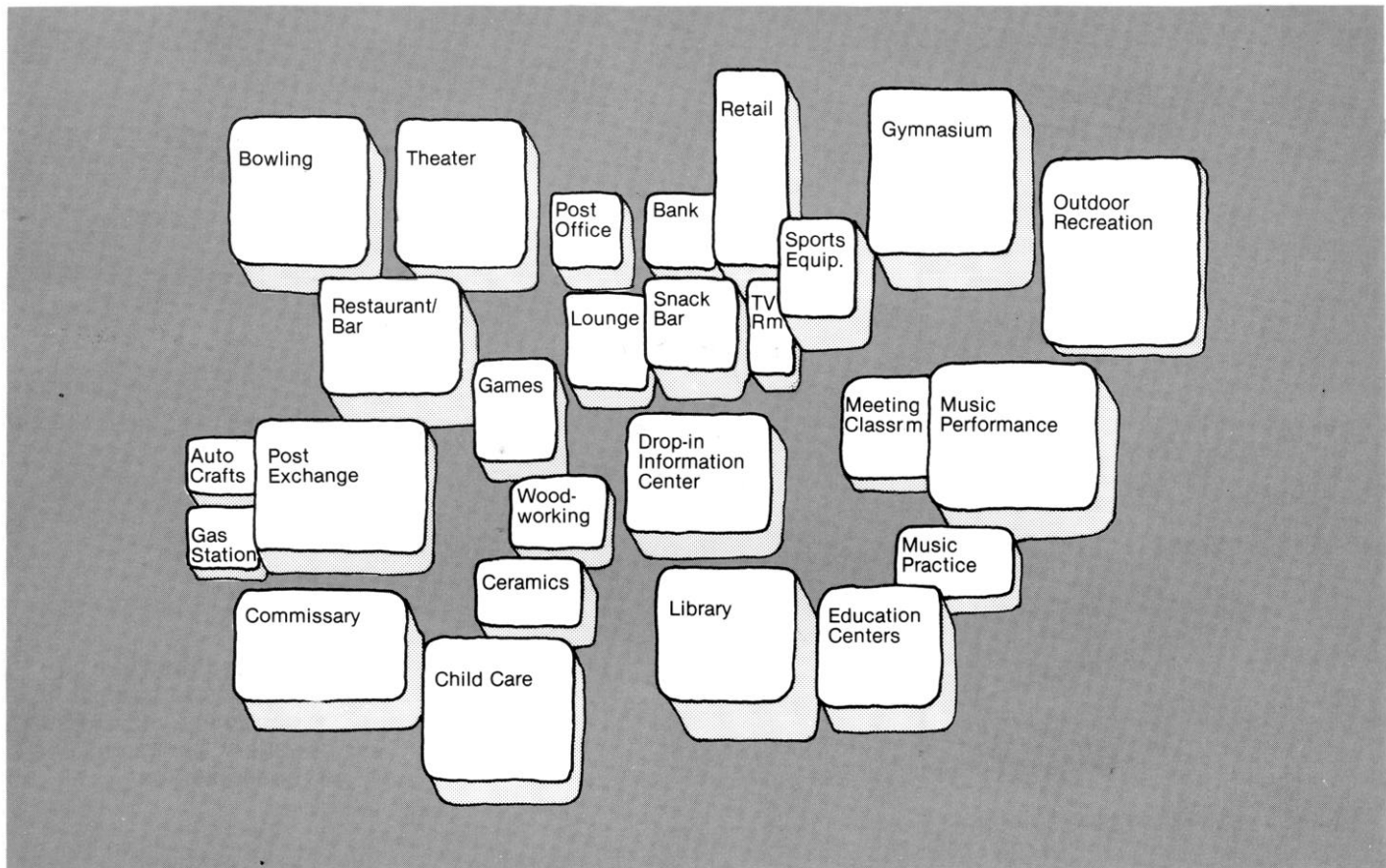


Figure 3 – 6 Mix of Various Functions

d. Variety and Personal Choice

The individual's quality of life and personal development is dependent on having the opportunity to make choices, particularly in leisure-time activities. To enhance such development, the community service agencies should provide options rather than direct the choice. The presentation of these options should emphasize freedom of choice. Introductory activities must be provided, offering encouragement and instruction by well-qualified staff, to expose unaccustomed personnel to new possibilities and to cultivate their interest.

(1) Mix of Various Functions. To maximize the individual's opportunities to choose, the post's community facilities should present as broad and varied a mix of activities and services as possible, as suggested by figure 3 - 6. The more that different compatible activities are clustered together, the greater the convenience for the individual and the greater the excitement and attraction that can be generated. In this way, the wide range of people on any installation can find activities which suit their particular interests, both as individuals or as groups.

Mixing different functions attracts and exposes unaccustomed users to new possibilities - expanding their choice by stimulating exploration of other activities. This applies to mixing different MSA functions in one setting - library and poolhall for example - as well as to mixing MSA and non-MSA facilities, such as music center, child care and post exchange. Heavily utilized attractors - like the gym, post exchange, or poolroom - will entice people to the facility and hopefully encourage them to try other functions. In addition, mixing different types of functions means mixing different types of users and providing good opportunities for social exchange.

(2) Accessible to Daily Life. For users to have real options from which to choose, the community services must be readily and visibly accessible to them. The location of facilities must reflect desirable access distances and relationships to the various user locations - billeting, family housing, post administration, other operations areas, and other community service areas that are off-post. Providing community activities convenient to the routes used in the course of daily life ensures good accessibility as well as exposure to the range of opportunities. Consider carefully the location of facilities in relation to such functions as housing, operations, post administration, shopping and eating.

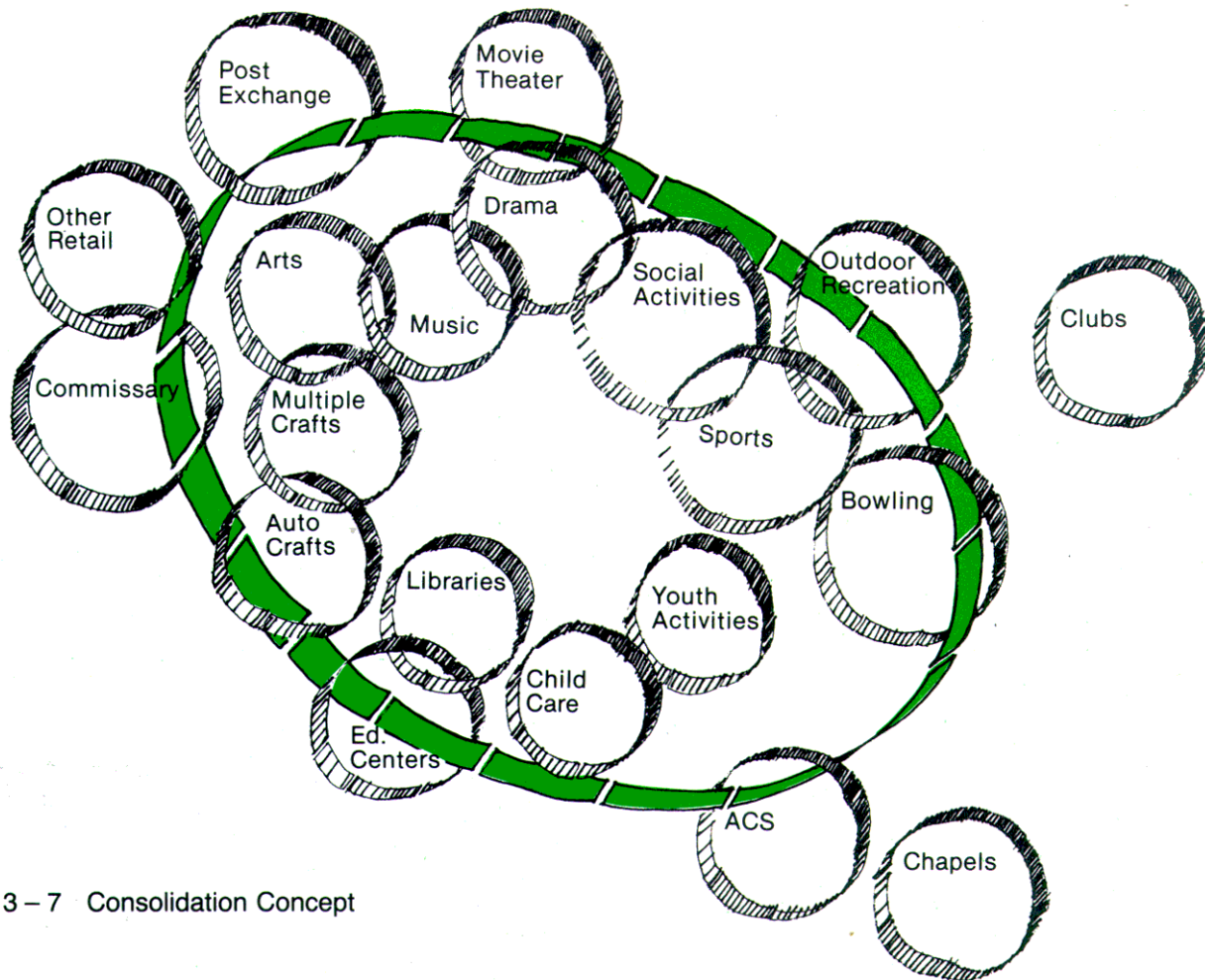


Figure 3 – 7 Consolidation Concept

(3) Open, Attractive and Non-Institutional. The community facilities should present an open, inviting image that is non-institutional. The soldiers should feel that they are “getting away” from the military life when entering this community environment. This factor is often cited in explaining the competitive attraction of off-post activities in comparison to on-post MSA functions. The use of private market mechanisms, as in civilian shopping centers, may make MSA functions more responsive to local demand. For example, selected CAC functions may be franchised to private concessionaires, such as fast food operators or skating rink operators.

The buildings should be open in design, with multiple entries. The users should not feel they are going through a control point to use the facilities, or to go from one activity to another. The design should encourage freedom of movement and alternative routes among the activities.

Community facilities should provide an attractive and identifiable focus for the community. They should be designed to create a sense of place, making a distinct, non-institutional, architectural statement. They should be sited, reflecting access patterns and topography, to be readily visible to the individuals who make up the community.

e. Consolidation

Inherent in the Community Activity Center concept is the principle of consolidation. Functions previously operated and accommodated separately, specifically MSA but potentially the full range of MWR programs, are to be consolidated into combined facilities, either single buildings or coordinated complexes (see figures 3 - 7 and 3 - 8, and illustrative plans in figures 3 - 12 through 3 - 14). However, consolidation should only be applied to the extent appropriate to service needs and program operation. The purposes underlying this principle include:

(1) Facility Cost Savings. Cost savings in community facilities are foreseen both in initial and life-cycle costs. Construction savings in reduced space requirements should result from shared use of multi-purpose function-spaces and elimination of duplicated support spaces. Facility maintenance and operating economies, including energy savings, should result from the reduced building square footage and, through proper zoning, from effective patterns of operating only parts of the facilities at a time, as needed.

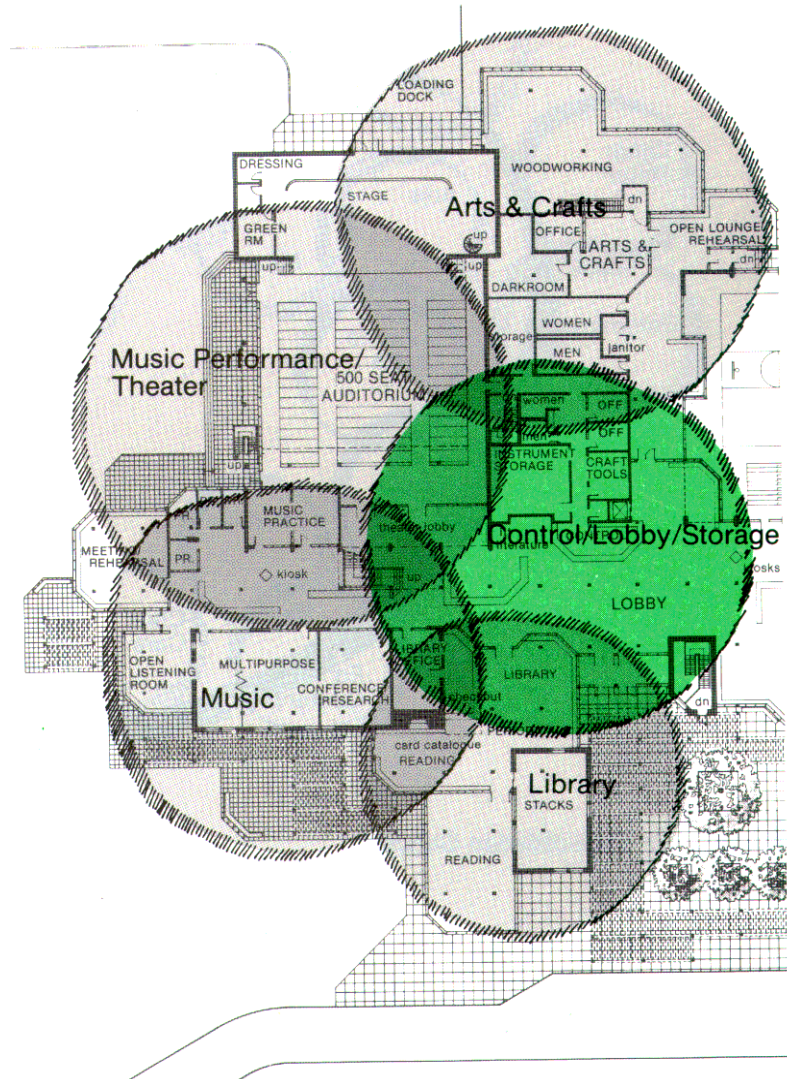
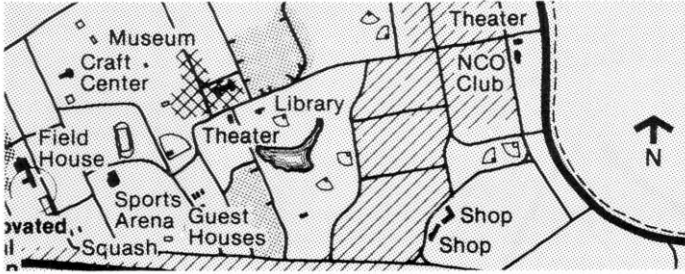


Figure 3 – 8 Consolidation

(2) Staffing Economies. Cost savings in staff utilization will derive from reductions in the numbers of staff required, as well as a shift toward use of staffs cross-trained to support various activities within the CAC. Program integration and future functions development will be designed for versatile activity directors, with more limited time required of program specialists.

(3) Program Improvements. Consolidation will permit mutual reinforcement and integration of previously independent programs, enhancing the sense of a center for community life. Interaction among different disciplines should yield new program approaches, and jointly operated functions and facilities. Consolidation will also improve visibility, exposure and accessibility, leading to increased program utilization. Efficiencies of operation will permit more activities to be available for longer periods for the same cost.



3 - 3

Planning Process

The Community Framework planning process is part of the development and reconsideration of the post's Masterplan. The steps required to develop the Community Framework are illustrated in figure 3 - 9. Although represented as a straight sequence of tasks, the framework will clearly need to evolve over time with changing circumstances, and parts of the planning process will need to be recycled to update the Community Framework and allow it to be responsive to changing needs. Figure 3 - 9 also indicates roles for the many participants in the planning process. The first step is defining who should be involved and how their input is organized. Participation, from the outset, should be as broad as possible. Participants organized into a coordinating committee should represent the full array of users, providers and implementers. Each step in the process requires interaction between service providers, masterplanner, users and other related parties.

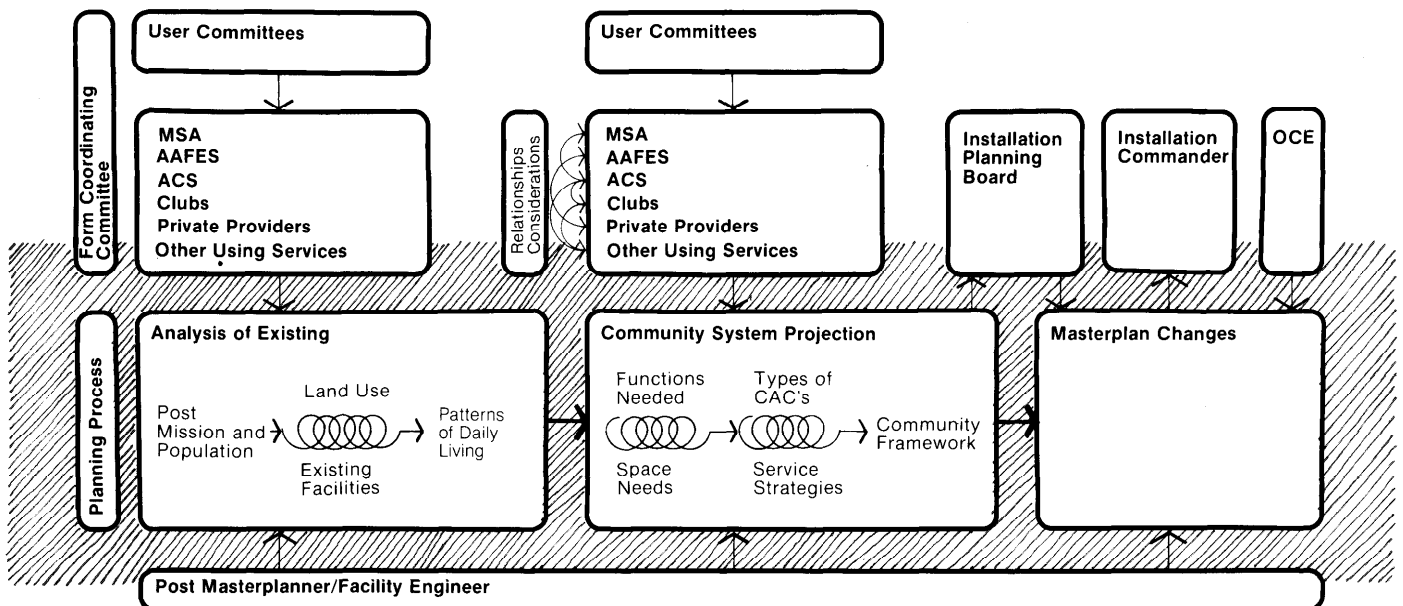


Figure 3 - 9 Community Framework Planning Process

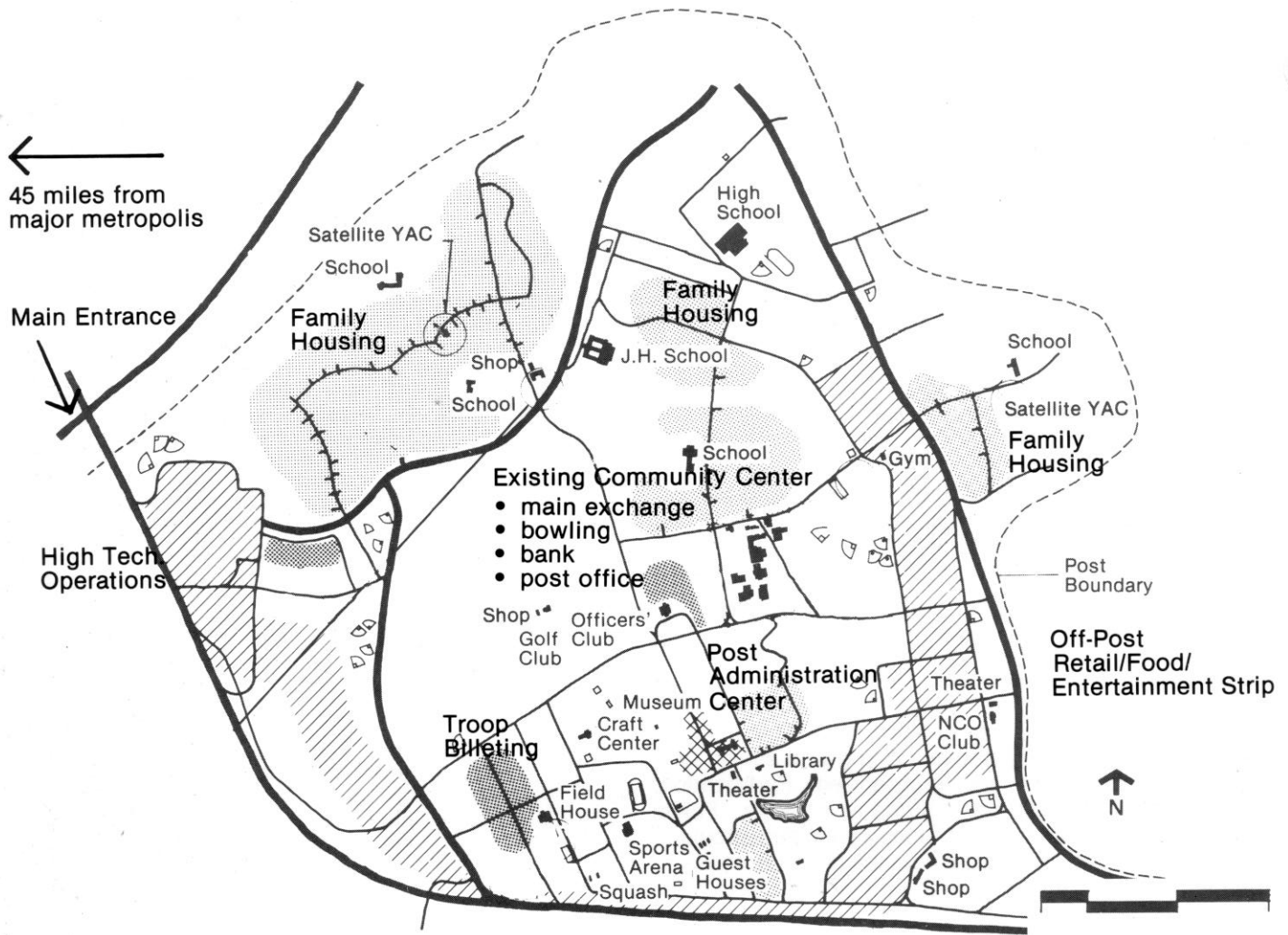


Figure 3 – 10 Typical Post: Analysis of Existing

a. Analysis of Existing Conditions

(1) Post Mission and Population. Determination, of the post's community system needs, begins with an analysis of the post's mission and population. Consider the current mission, projected changes, and the implications for service needs, such as changes in numbers of troops or dependents, or addition of a highly technically-educated population. Review the post population and its breakdown by user categories - military/dependent, rank, age, etc. For each group, analyze activity patterns, preferences, and potential trends. Chart these for each user category, including population numbers and activity preferences.

Activity preferences can be gleaned from biennial Post Information Surveys, general program usage literature, and existing activity utilization rates. Even more valuable are preferences expressed by users and direct service

program staff through the committees outlined above. Comparison with civilian life situations for similar population groups will help broaden the perspective. The result should help define the full scope of activity goals and service needs that community programs should try to meet.

(2) Post Land Use and Context. The next step is to analyze the location of functions on the post, the local topography, and surrounding environment (see figure 3 - 10). Review the masterplan to understand the organization of service areas and facilities on post: central administration, post operations, specific mission-related activity concentrations, family housing, officers quarters, troop billeting, dining facilities, existing community services, road networks and transportation facilities, topographic features, etc. Analyze the rationale behind the relationships between community service facilities and the other elements on post. Also review intentions for future building and post organization outlined in the masterplan.

The surrounding environment and off-post resources must also be considered for potential service to post populations. Take an inventory of available community services, public and private recreation programs, entertainment facilities, and other commercial services. Indicate distances to nearby towns and cities, and convenience of vehicle and public transportation access. Consider whether such off-post services are really available to the military population and successfully meet the needs of soldiers and their dependents.

Much of this information may already be known to experienced staff and users among the coordinating committee members. It can be supplemented by discussions with local and county officials, planners, service groups, chambers of commerce and similar organizations. Regional topography, climate, transportation systems, special environmental features, and more remotely located resources, such as major outdoor recreation areas, should also be considered.

(3) Existing MSA and Community Facilities. In addition to an understanding of post land use and context, an analysis of all existing MSA and community programs and facilities is also required. The Existing Facilities Report, available from the Masterplanner, provides information on building size, location, age, condition, major physical features that affect usability, major program use and using service. Assemble an inventory of major programs from each service organization, and match them with existing facility accommodations. Map these facilities and functions with the post land use analysis (see figure 3 - 10).

(4) Patterns of Daily Living. For each population group, make a projection of daily life activities such as work, household functions, eating, shopping, schooling, exercise, recreation and where they are located. In addition to identifying convenient locations for service functions, this should help clarify major gaps in leisure-time and other community activities, which should be considered in developing a more appropriate community service system.

b. Community System Projection

(1) Functions Needed. The next task is to project the desired community system. Based on the inventory of existing programs and facilities, and the understanding of the users' daily patterns, develop a list of all the functions that might be provided, covering not just MSA but the full scope of community life (see table 3 - 1). This list should reflect the utilization rates of existing Army program activities, available off-post and private market community activities, Army program guidance, and general literature on community functions and support services in civilian life. It should also reflect the personal preferences and needs of the most likely users, including their most common patterns of use - on weekends, evenings, lunch breaks, other off-hours, etc. Attempt to set initial priority categories of essential and desirable activities among the projected functions.

(2) Accommodation Requirements. To get a rough idea of the requirements for physical accommodations, check these programs against the DOD allocation criteria for the population size to be served. Table 3 - 2 provides a summary of the DOD space authorizations for MWR facility-types that may be included in Community Activity Centers, as found in DOD 4270.1-M, Department of Defense Construction Criteria. These represent the maximum possible authorized square footage for a particular size post; the actual required areas to be approved will have to be justified by calculation of space needed for program functions. Space authorization figures in this table are based on installation military strength plus estimated dependent populations, clustered in typical size-ranges, to give an approximate guide to the potentially authorized space for any set of functions chosen for a particular post. Complete tables of space requirements and allocations by function-type, for more precise calculation at the project development stage, are provided in Chapter 7.

(3) Types of Community Activity Centers. To consider how to package the desired functions into facility projects, it is important to understand the range of CAC types and what they are designed to accommodate. The following presents different types of MSA and community facilities (further issues on programming these facilities are presented in Chapter 4).

Table 3 – 1 Community Activities Needs Inventory -

Installation:	Grade:	Date:	Probable Users/Levels of Need							
Functions	Single Military	Married Military	Wives	Youth	Single Military	Married Military	Wives	Youth		
MSA:					Non-MSA:					
Art	●	○	○	○	ACS/AER		□	□	□	
Multiple Crafts					Banking	■	■	■		
-Ceramics	■	●	□	□	Bus Station	□	□	□	□	
-Woodworking	■	■	○	○	Car Wash	■	■	■		
-Photography	■	□	□	□	Chapel/Religious					
Auto Crafts	■	■			Education	■	■	■	■	
Bowling	■	□	□	□	Child Care	□	□	□		
Golf	■	■	○		Commissary	■	■	■	■	
Libraries					Credit Union	■	□	□		
Main (general/reference)	□	□	□	□	Exchange					
-Branch (leisure)	○	□	□	□	-Main Retail	■	■	■	■	
Music and Drama					-Branch	■				
-Theatre Productions	■	■	■	■	-Cafeteria/Snack Bars	■	□	□	□	
-Dinner Theatre	○	□	□		-Laundry	■	□	□		
-Music Performance	■			○	Gas/Service Stations	■	□	□		
-Practice/Class	●	●	○	□	Education Centers	□	□			
-Instrument Checkout	■	○	○	□	Guest Housing/Hotel	□	□			
Outdoor					Open Messes					
Playing Courts/Fields	■	■	■	■	-EM	■	■			
Outdoor Recreation	■	■	■	■	-NCO	■	■			
Sports					-O	■	■			
-Gym/Field House	■	○	○	□	Liquor Stores	■	■			
-Racquetball/Squash	■	○	○	○	Post Office	□	□	□	□	
-Exercise/Weights	■	□	□	□	Restaurants	□	□	□		
-Swimming Pools	■	□	□	□	Shopette		■	■	■	
-Roller Skating	□	○	○	□	Theaters	■	□	□	□	
Social Activities					Thrift Shops		□	□		
-Lounge (TV, records)	■	□	□	□						
-Games (pool, ping pong, elec.)	■	○		□						
-Snacks	■	□	□	□						
-Meetings/Classes	■	□	□	□						
Youth Activities				□						

Key:
 Major need: ■ - already provided; ■ - partially provided;
 □ - inadequately provided
 Minor need: ● - already provided; ○ - inadequately provided

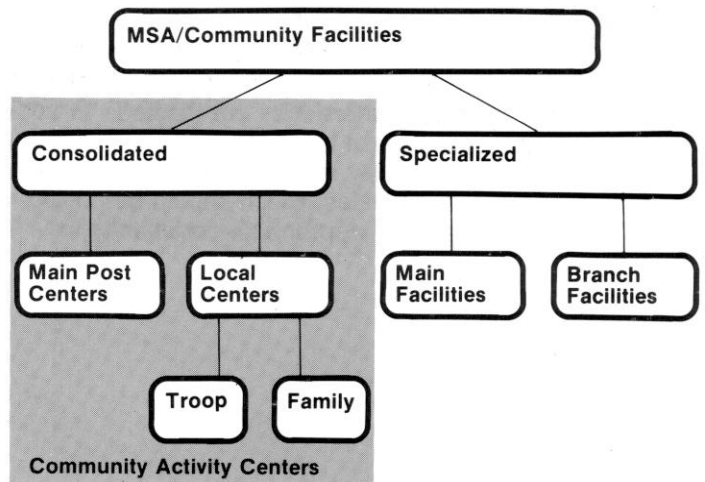


Figure 3 – 11 Types of MSA Facilities

(a) Consolidated vs. Specialized Facilities. There are two basic categories of MSA and other community facilities: consolidated and specialized (see figure 3 - 11). Specialized facilities are oriented to the needs of single programs. Consolidated facilities - Community Activity Centers - are designed 'to accommodate multiple, coordinated programs, and may include MSA functions only, or MSA and other community activities.

Specialized facilities include both main facilities, which serve the post-wide population, and branch facilities, which serve geographical sub-areas and population sub-groups of the post. In the past, such facilities have been built as common community facilities and will continue to be built for functions which do not readily consolidate, or as parts of Main Post Center CAC building complexes (for guidance on these specialized facilities, consult Chapter 7 and the individual Design Guides referenced there).

There are two types of consolidated Community Activity Centers: Main Post Centers and Local Centers. Main Post Centers are large Community Activity Centers which serve as the focus for community life for the entire post, acting as the post's "downtown." They accommodate all or most of the major MSA, commercial and other community functions serving the whole post, including the main exchange and commissary (see example, figure 3 - 12).

Local Centers are CAC's which primarily serve small geographical areas and population groups of the post, such as troop billeting areas, troop units, and family housing areas. They provide a focus for the local community, within walking distance, and neighborhood-scale leisure, commercial and service functions. Local Centers vary in size and in the number of people served, depending on their service territory (see examples, figures 3 - 13 and 3 - 14). They can be programmed and designed to serve only troops, only families, or both.

(b) Specialized vs. Non-Specialized Activities. Community Activity Centers are also distinguished by the degree of specialized and non-specialized activities they accommodate. Specialized activities are any activities requiring staffing by program specialists, whether on a full-time or part-time basis. Non-specialized activities can be operated primarily by such staff as recreation aides and technical assistants. The degree of specialization in an individual Community Activity Center may vary widely.

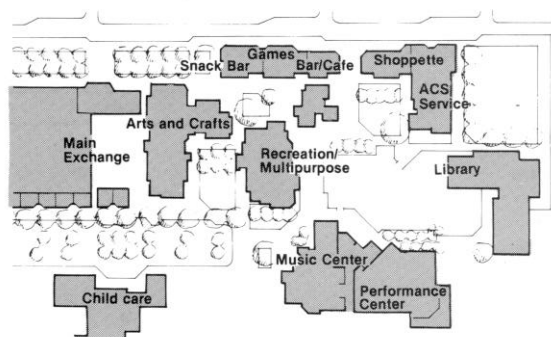


Figure 3 - 12 Main Post Center

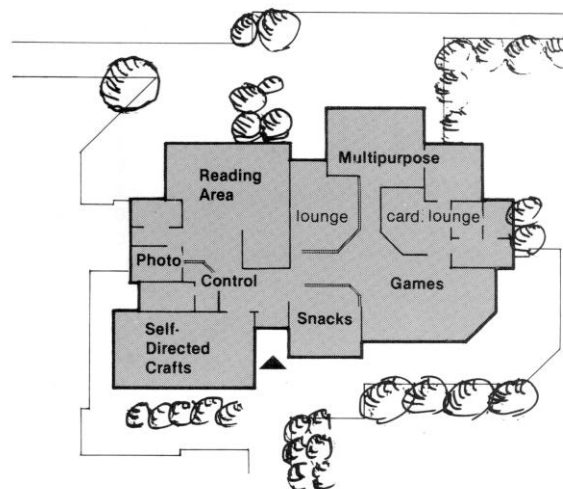


Figure 3 - 13 Local Center

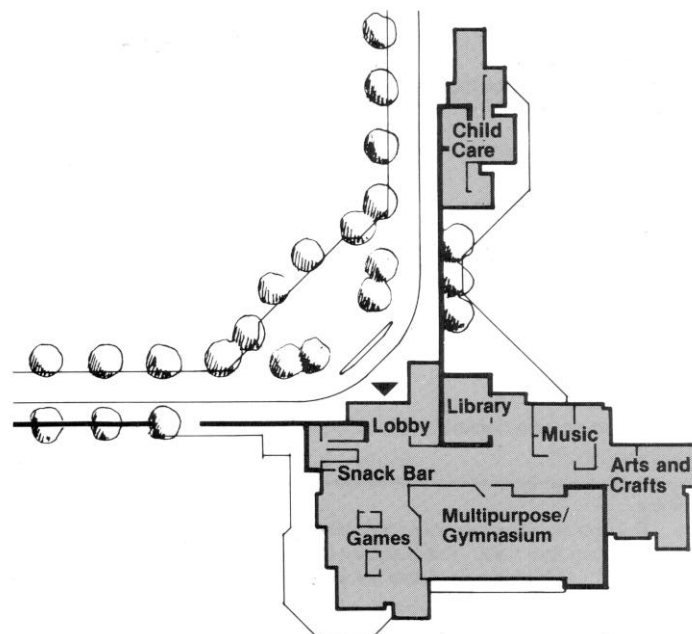


Figure 3 - 14 Local Center with Specialized Activities

Table 3 – 2 DOD Space Authorization Summary

Facility-types	Maximum Allowed Area (Gross Square Feet) based on Installation Military Strength ^a			
	0-250	251-1,000	1,001-3,000	3,001-5,000
Arts and Crafts Centers^b	e-3,000^c	3,000-6,000^c	6,000-10,000^c	10,000-14,000^c
Automotive Centers	0-3,000^c	3,000-6,000^c	6,000-9,000^c	9,000-12,000^c
Banks	1,500	1,500	2,375-3,250	3,625-4,000
Bowling Facilities	2,700-4,500^c	4,500-6,600^c	6,600-12,800^c	12,800-24,700^c
Child Care Facilities	2,250-2,520	2,520-8,250	8,250-24,750	24,750-41,250
Commissary Stores	d	d	d	d
Credit Unions	d	d	d	d
Drama Centers	e	e	e	e-14,000^c
Education Centers	e	4,925 ^c	9,700 ^c	14,700 ^c
Exchange Facilities:				
• Amusement Centers	0	0-1,200	1,800	2,400
• Beauty Shops	d	d	d	d
• Branch Exchanges	0	0	0-7,000	7,000
• Car Wash Facilities	0	0	720	1,180
• Cafeterias/Snack Bars	1,850	1,850-2,700	5,400	7,400
• Gasoline/Service Stations	600	600-1,740	2,160	2,830
• Main Retail Stores	d	d	d	d
• Service Outlets:				
• Barber Shop	300	300-390	580	980
• Coin-Operated Laundry	0	0-750	1,150	1,150
• Optical Shop	0	0-460	460	460
• Personal Services	0	0-150	240	310
• Portrait Studio	0	0-740	740	740
• Radio-TV Repair	0	0-460	600	840
• Shoe Repair	0	0-225	350	500
• Tailor	200	200	220	400
• Valet	300	300-650	1,100	1,100
• Watch Repair	0	0-150	240	310
• Snack Stands	0	0	0	900
Family/Community Service Ctrs.	e-650 ^c	650-1,150	1,150-1,500 ^c	1,500-2,500 ^c
Golf Facilities	0	0	0-10,000 ^c	10,000
Libraries				
• Branch	0	0	0	0
• Main	2,500 ^c	2,500-6,250 ^c	6,250-10,500 ^c	10,500-12,000 ^c
• Service Center	d	d	d	d
Military Rec'n Supply/Support	3,500 ^c	3,500-5,000 ^c	5,000-10,000 ^c	10,000
Multipurpose Rec'n Bldg.	7,000-12,000^c	12,000	0	0
Music Centers	e	e	e	e-14,000^c
Open Messes (Clubs)	d	d	d	d
Outdoor Playing Courts/Fields	f	f	f	f
Outdoor Rec'n Facilities	f	f	f	f
Package Liquor Stores	d	d	d	d
Post Offices, Central	400-600 ^c	600-1,750 ^c	1,750-4,500 ^c	4,500-8,250 ^c
Recreation Centers	e	4,000-12,700^c	12,700-19,800^c	19,800-55,600^c
Recreation Merchandise Storage	0-1,500 ^c	1,500- 2,000 ^c	2,000- 3,500 ^c	3,500-4,500 ^c
Religious Facilities				
• Chapels	e-6,500	6,500-11,500	11,500-26,640	26,640-35,520
• Religious Education	e-3,855	3,855-5,535	5,535-9,735	9,735-13,095
Restaurants	d	d	d	d
Roller/Ice Skating Rinks	10,000^c	10,000	10,000-15,000^c	15,000
Sports Facilities:				
• Gymnasium/Phys. Fitness Ctrs.	e-14,000^c	21,000-42,000^c	21,000-42,000^c	42,000-63,000^c
• Phys. Fitness/Athl. Complex	0	0	0	0-30,000
• Handball/Racquetball Cts.	0-1,200^c	1,200-2,400^c	4,800-7,200^c	7,200-9,600^c
• Swimming Pools	f	f	f	f
Stadiums	0	0	0	0
Theaters	e-3,500	3,500-6,500	6,500-17,200	17,200-26,800
Thrift Shops	1,400 ^c	1,400	1,400-2,700 ^c	2,700-4,000 ^c
Unit Entertainment Centers	e	3,500	3,500-9,000	9,000-15,000
Youth Centers^d	e	e-6,700^c	6,700-11,340^c	11,340-18,500^c

Notes:

a. The data listed are based on DOD 4270.1-M dated June 1, 1978, as revised in April 1982. This is subject to change. Consult current DOD 4270.1-M to determine if data are still applicable for specific categories. Where the space authorization for a facility type in DOD 4270.1-M is not directly based on military strength, a formula has been applied to convert the indicated military population for the facility type. This formula is based on Army statistics indicating that 55% of military personnel are married, and

each of these has an average of 2.5 dependents (including spouse and minor dependents). Eligible civilian and retired military populations have not been included, as inestimable. See DOD 4270.1-M for individual facility formulas and limitations.

b. Facility types in bold are the MSA and related community facilities which constitute the core of the Community Activity Center.

5,001-10,000	10,001-15,000	15,001-20,000	20,001-30,000	30,001 and over
14,000-25,000^c	25,000-35,000^c	35,000-40,000^c	40,000-50,000^c	50,000 and over
12,000-18,000^c	18,000-21,000^c	21,000-24,000	24,000-30,000	30,000 and over
4,375-6,375 ^c	6,375-8,000 ^c	10,000-13,000	d	d
24,700-38,600^c	38,600-59,500^c	59,500-80,400	80,400-122,200	122,200 and over
41,250-82,500	82,500-123,750	123,750-165,000	165,000-247,500	247,500 and over
d	d	d	d	d
d	d	d	d	d
14,000	14,000-20,000^c	20,000	20,000	20,000
17,500-21,500 ^c	28,500 ^c	34,500 ^c	39,500-44,200 ^c	52,200 and over
3,800-5,000	6,500	8,500	11,000-12,800	12,800 and over
d	d	d	d	d
14,000-21,000	28,000-35,000	42,000-49,000	56,000-77,000	77,000 and over
1,640-2,100	2,560	3,020	3,480	3,480
9,300-10,700	12,600	16,800	18,600	18,600 and over
3,250-4,140	4,560	6,500	9,750	9,750
d	d	d	d	d
1,170-1,300	1,480	1,640	1,740-1,800	1,800 and over
1,900-2,150	2,150	2,380	3,800-4,300	4,300 and over
460	600	780	780-910	910 and over
310-400	400	460	460	460 and over
740-930	930	1,010	1,010	1,010 and over
1,060-1,280	1,280	1,480	1,480-1,680	1,680 and over
625-750	900	900	900	900 and over
650-700	800	900	900	900 and over
1,300	1,300	1,300	1,500	1,500 and over
310-400	400	460	460	460 and over
1,800	2,700	2,700	3,600	3,600 and over
2,500-3,000 ^c	3,000-3,200 ^c	3,200	3,200	3,200
10,000-13,000 ^c	13,000	13,000	13,000	13,000
0	0-4,000	4,000-12,000	12,000-24,000	24,000 and over
12,000-20,800 ^c	20,800-30,000 ^c	30,000-36,000 ^c	36,000-54,000 ^c	54,000 and over
d	d	d	d	d
10,000-16,000 ^c	16,000-20,500 ^c	20,500	20,500	20,500 and over
0	0	0	0	0
14,000	14,000-20,000^c	20,000	20,000	20,000
d	d	d	d	d
f	f	f	f	f
f	f	f	f	f
d	d	d	d	d
8,250-12,525 ^c	12,525-17,325 ^c	17,325-22,125 ^c	22,125-24,525	24,525
55,600-83,400^c	83,400	d	d	d
4,500-5,500 ^c	5,500	5,500	5,500	5,500
35,520-55,500	55,500-73,260	73,260-89,244	89,244-121,212	121,212 and over
13,095-23,175	23,175-32,415	32,415-42,495	42,495-62,655	62,655 and over
d	d	d	d	d
15,000	15,000-20,000^c	20,000	20,000	20,000
63,000-84,000^c	84,000-105,000	105,000-147,000	147,000-231,000	231,000 and over
40,000-50,000	62,000	62,000	62,000-124,000	124,000 and over
9,600-14,400^c	14,400-16,800	16,800-21,600	21,600-28,800	28,800 and over
f	f	f	f	f
0	f	f	f	f
26,800-46,000	46,000-52,000	d	d	d
4,000-5,350 ^c	5,350	5,350	5,350	5,350
d	d	d	d	d
18,500	18,500-27,740	27,740-36,980	36,980-55,460	55,460 and over

c. The exact range of military population served by this size facility varies. See DOD 4270.1-M for precise definition.

d. These figures are determined by criteria other than military strength or military population. See DOD 4270.1-M for the individual facility.

e. Accommodate in other facilities.

f. Outdoor facilities, not measured by comparable square footage. See DOD

4270.1-M for authorized facilities specification.

g. Married military personnel are assumed to have an average of 1.0 dependent youth in the eligible age range (6 - 19) for Youth Activities. Eligible youth population is therefore determined by multiplying installation military strength by a factor of .55.

Main Post Centers and Local Centers both can combine specialized and non-specialized activities. Main Post Centers are predominantly specialized in function. As the post-wide service facilities, they accommodate the activities which require specialist staffing to supervise and operate. Local Centers may have little or no specialized activity which is typical for a small facility, as shown in figure 3 - 12. But Local Centers may have a wide range of specialized activities, particularly in the larger examples, as in figure 3 - 14. The specialized activity in a Local Center may serve the post-wide population, if the function accommodated is unique on post, or requires special facilities not readily available elsewhere, such as an indoor swimming pool, large ceramics shop, or dinner theatre.

(c) Single Buildings vs. Complexes. Community Activity Centers, both Main Post and Local, can be built either as single buildings or complexes of related buildings. Main Post Centers, because of their large size and multiplicity of specialized functions will commonly require a complex of related or attached structures, including specialized facilities. However, at smaller posts, the Main Post Center functions may often be accommodated under one roof. Local Centers may readily be of either type, depending on the size and complexity of the functional organization, and local site conditions.

(4) Projected Service Strategies. The concept of a complex of Community Activity Center types, in conjunction with an analysis of projected needs of the user population, leads to the strategies for the provision of community services. Consider the appropriate pattern of distribution of services for each function: active sports, ceramics, woodworking, child-care, etc. Then identify groups of functions that serve the same geographical areas creating a list of facilities that can potentially be consolidated. Each cluster may include a different set of functions, depending on the population and needs of the area it serves. Several alternative groupings may be necessary to arrive at a recommended service strategy (see example, figure 3 - 15).

At this point, the coordinating committee must resolve the issues of integrating formerly independent services and programs. These decisions may affect the types of functions included in each facility, as well as the space program requirements to accommodate them.

Priorities among the different functions and facilities should also be considered by all parties involved in the planning process. Both MSA program priorities, outlined in AR 28-1, and local priorities must be reflected. Consideration of local priorities insures an appropriate match between needs and potential programs given local resources, as well as realistic expectations of funding and staffing. The result should be a recommended overall community service strategy, supported by all the parties involved in the planning, upon which to base the Community Framework.

(5) Community Framework. The final product of this planning process is the Community Framework (see Figure 3 - 15) previously discussed in section 3 - 2. Based on the recommended distribution of services and the types of CAC's proposed, develop a plan locating facilities to serve the whole post. Each facility should have a preliminary function and space program, and a clear understanding of its site requirements, service territory and access patterns. The plan should indicate existing facilities to be retained and their purpose. The Framework should also include a flexible plan for the phased development of facilities adaptable to future needs and the uncertainties of program funding.

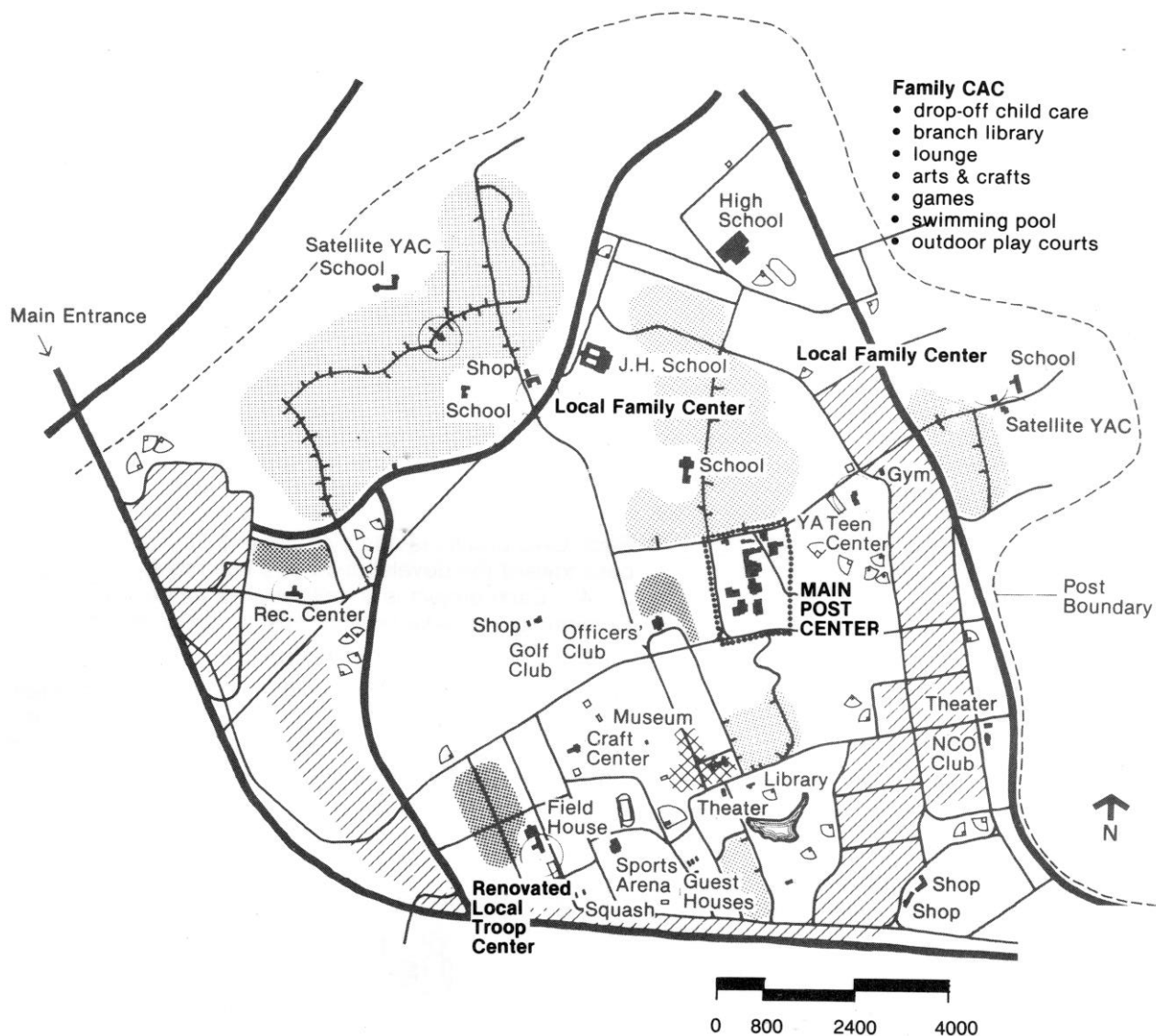


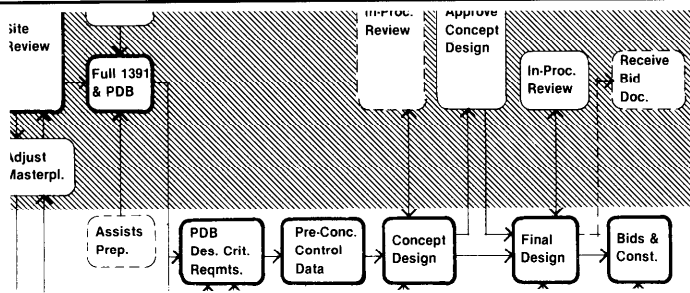
Figure 3 – 15 Typical Post: Community Framework

c. Masterplan Changes

Once the Community Framework has been established by agreement of the masterplanner, the coordinating committee and its constituent service agencies, the post's official Masterplan should incorporate the new decisions in future post development. The changes agreed upon are presented to the Installation Planning Board by the masterplanner and facility engineer. If the coordinating committee has representation on the membership of this Board, or has communicated with its members in developing the Community Framework, this should be an easy step. From here, the proposed changes should go to the Installation Commander and OCE for approval. They can then be officially included in the post's masterplan (see AR 210-20 for detailed procedures).

3 - 4

Project Development



Each CAC project is one element in a continuous process toward the development of a community. (see figure 3 - 4). Each project is a realization of some part of the Community Framework, and must be grounded in the context of this overall post-wide plan.

This section presents a series of steps to be undertaken in the project development process, what agencies and parties are involved, their procedural responsibilities, and a discussion of alternative strategies for project development.

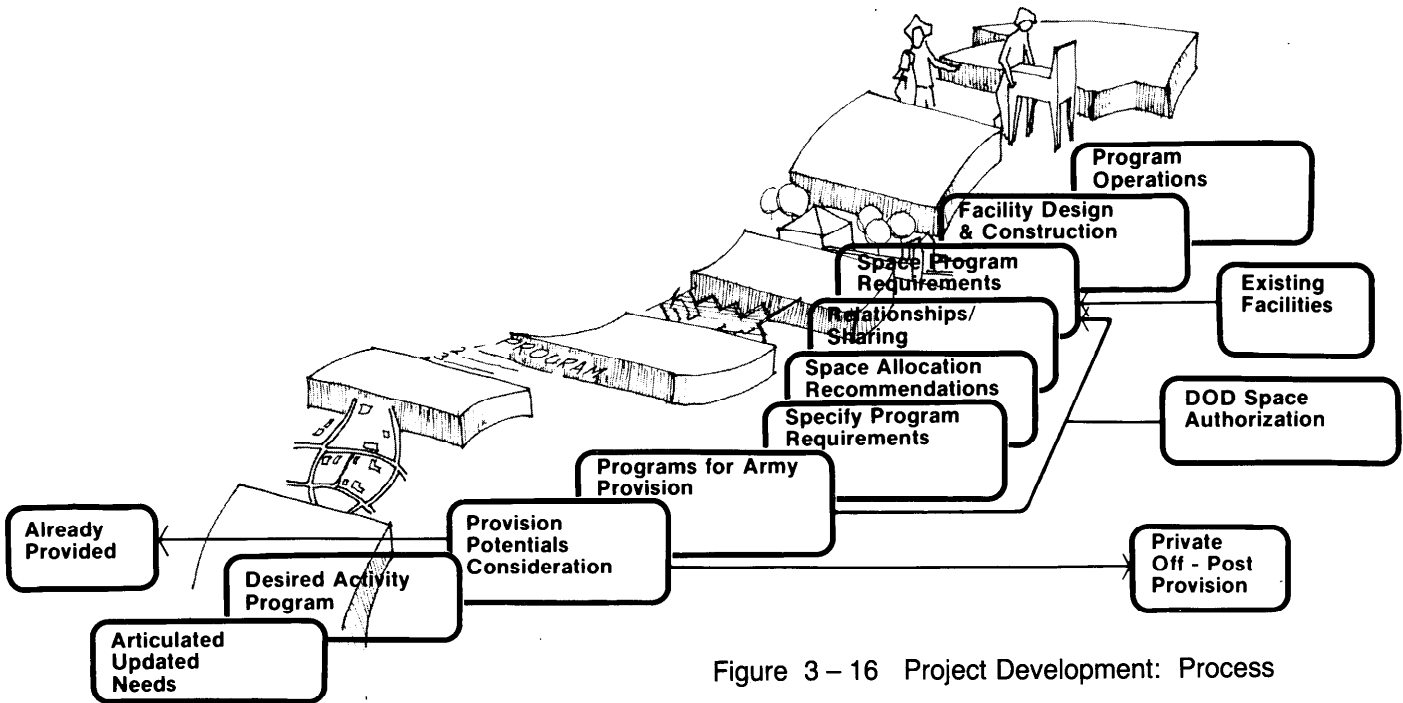


Figure 3 - 16 Project Development: Process

a. Project Development Process

The steps involved in the project development process are represented diagrammatically in figure 3 - 16. As an initial step in this process, the specific functional areas of the proposed project must be examined in greater depth. This refinement of the Community Framework is then followed by detailed facility programming and design, as outlined in Chapters 4 and 5 of this Design Guide. For further detailed guidance on the procedures of the project development process, see TM 5-800-3, Project Development Brochure.

The same participants involved in the Community Framework planning (such as the masterplanner, MSA and other provider agencies, and users) are also responsible for the initial steps of the project development process. Other participants involved in specific aspects of the proposed project, and its programs, may be added to provide additional input.

Project development is typically initiated when some new need or capacity to serve arises, for example, a new fiscal year, mission or population group served, as well as new program and funding sources. The first step in the process is to articulate the most current needs, based on a review of the users' affected by the proposed project and updated since the time of development of the Community Framework. This leads to refinement of the *desired activity programs*.

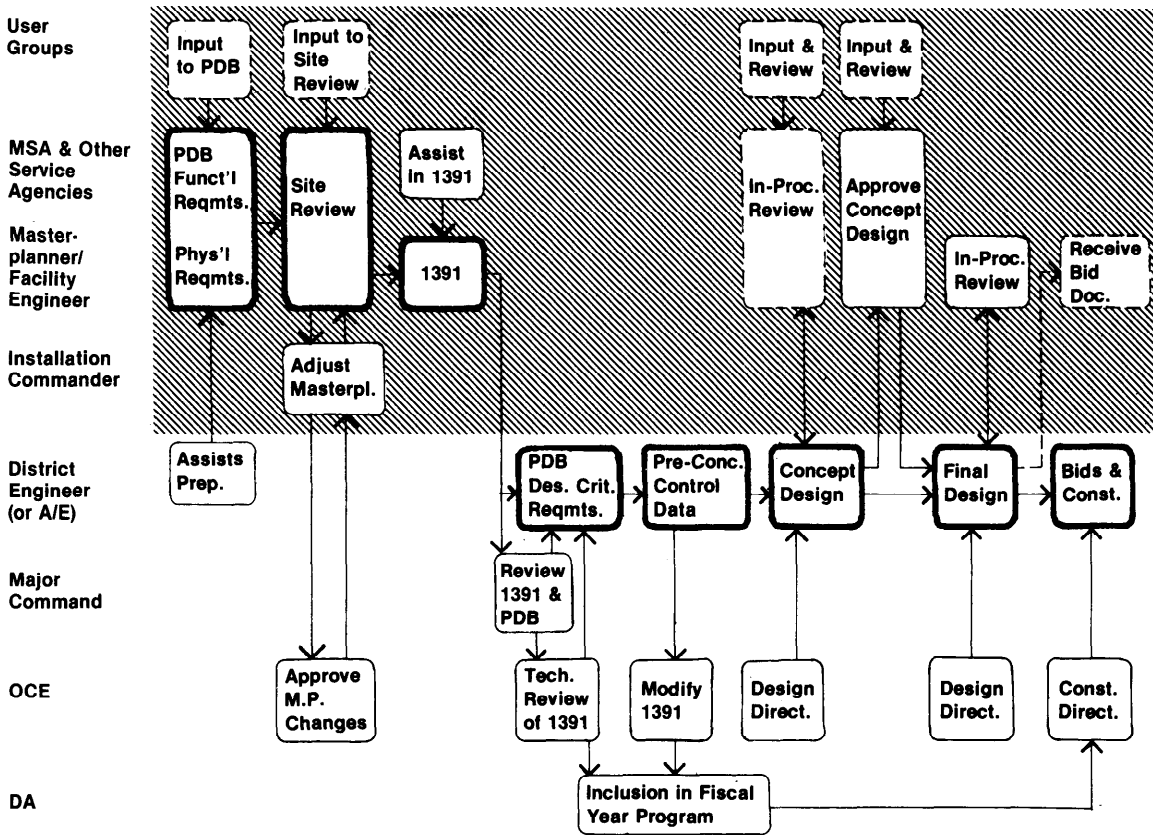
Alternative *potentials for the provision* of these programs should be reviewed in order to capitalize on any additional available resources. This review may show that some of the desired programs are *already adequately provided*, and that some are more appropriate for *private off-post provision*. Off-post provision of services involves a different development process, although the key program participants are still responsible for coordination. A nucleus of *programs for Army provision* should result from this review. This in turn provides the functional program for the project.

Development of the *space program* from the function programs to be accommodated sets the requirements for the physical design, and simultaneously fulfills the information needs of the Project Development Brochure and DD Form 1391. The functional *program requirements*

should first be clearly specified. The maximum allowable space is determined by totalling *DOD space authorization* figures for every facility type included in the Community Activity Center project and subtracting the square footage already utilized in existing buildings to be retained. The authorized square-foot areas are indicated in DOD 4270.1-M, and in Chapter 7 of this Design Guide.

The actual space requirements for the major functional areas included in the project are developed by reviewing the *space allocation recommendations* (see Chapter 7). Physical *relationships between programs* should be considered, reflecting the consolidation concepts presented in Chapter 5. Issues of shared space, combined support requirements, and programmatic integration may yield considerable space savings. This, together with an analysis of the physical characteristics of existing facilities that could be reused as part of the project, and the DOD space authorization limits, yield the *space program requirements* for the project.

Along with the development of the space program, the Project Summary, Project Development Brochure and 1391 Form are prepared. A review of the Community Framework as it affects the location of this project should then take place, and the *site decision* finalized or modified. Any significant modification will require a review of the masterplan as described earlier. Following final approval and inclusion of the project in the budget, *facility design and construction* can commence. Upon completion and occupancy of the building, *operation* of the Community Activity Center facility and its various programs can begin as part of the post's community system.



Notes: Bold-outline boxes are primary actions required; others are support/responsive. Shaded area represents on-post agencies and people.

Figure 3 - 17 Project Development: Responsibilities

b. Responsibilities

The roles and responsibilities of the various parties involved in the project development process are diagrammatically outlined in figure 3 - 17. This outlines the procedures for development of Community Activity Centers funded under the MCA program. The procedures that apply under alternative funding programs are similar to those outlined for this program.

Prior to the steps shown in figure 3 - 17, the Community Framework was developed, and the Installation Planning Board (IPB) approved modifications to the post masterplan to reflect this framework. These decisions include selecting a site for the proposed community facilities and listing the priorities for new construction projects. Thus the "site review" indicated in figure 3 - 17 is a review of previous siting decisions and possible modifications to the approved masterplan priorities, based on a refined understanding of the functional requirements for a specific project. In addition, a Project Summary (PS) was also prepared (see TM 5-800-3) to accompany the initial (one page) DD Form 1391, providing preliminary information about the project to the MACOM.

Upon notification that a Community Activity Center has a high probability of being included in the MACOM's Short Range Construction Program (SRCP), the Facility Engineer coordinates the preparation of a detailed Project Development Brochure (PDB), based on the Project Summary previously submitted. The functional description of the PDB, including the activities and operations of the programs to be included in the facility, is written by representatives of Morale Support Activities and the other service agencies involved in the project. The physical requirements - siting, site development, general architectural and technical aspects - are established by the Facility Engineer, in conjunction with the Morale Support Activities and other service agency representatives. All these mutual efforts are coordinated through the Coordinating Committee discussed previously. The Facility Engineer also has the option of asking assistance from the District Engineer in preparing the PDB.

DD Form 1391, Military Construction Project Data with detailed justifications, is the essential documentation required by the Major Command. Army Headquarters uses the 1391, with MACOM input, to further refine DA

construction priorities. The 1391 is primarily the responsibility of the Facility Engineer, with input from Morale Support Activities and the other service agencies involved. It is a detailed justification of the need for the project, including descriptions of the general physical characteristics of the facility, quantitative data, and cost estimates.

For the remainder of the project development process, primary responsibility shifts to the District Engineer's office, or the activity charged with construction responsibility. The District Engineer develops the design criteria, and handles concept design, final design and construction administration, or contracts the design to an outside architect/engineer. These steps are based on the functional and operational requirements in the PDB and 1391. In this process there is also an opportunity for review and approval of the concept design by the Facility Engineer, Morale Support Activities and other service agencies and user group representatives. This is a critical review by both the installation and the using services in order to provide meaningful input.

c. Alternative Funding Sources

In attempting to develop the functions and facilities planned in the Community Framework, the installation should explore all possible funding programs. Available resources for accomplishing MWR projects include appropriated funds and nonappropriated funds, as well as some services supplied by civilians. Each program category has its own policies, funding limitations, and approval procedures, which also change over time. Different types of MSA and other community facilities may or may not be fundable under each. Consult the relevant Army Regulations and current program budget guidance for further information.

The possibility of individual building projects funded under multiple resource programs may be considered. However, possible complications in the approval procedure may ensue, due to questions raised about the multiple-funding approach. See AR 415-35 concerning procedures for using a combination of appropriated and non - appropriated funds for construction projects.

d. Consideration of Civilian Alternatives

In planning and developing the Army community system, the characteristics of and services available in the surrounding civilian area must be considered. Normally, government-owned facilities should not be provided if adequate similar services are readily available for soldier use within adjacent civilian communities. When facilities are available, the extent of possible civilian support for military personnel must be surveyed, and efforts extended to encourage such civilian-supplied service. The degree to which civilian services are actually available to military personnel must be carefully evaluated.

When services are available in the civilian community, the on-post services and facilities should be programmed to meet only the remaining Army community needs.

4

Facility Programming

4 - 1

Using This Chapter

This chapter provides guidance for programming individual Community Activity Centers, identified in the Community Framework planning discussed in Chapter 3. It discusses the considerations involved in their detailed programming, including the type and numbers of population served, location, functions included, building organization and size.

The material in this chapter, together with local post data and judgments, will provide the basis for the development of building programs. These indicate the specific functions to be included, and the types and sizes of spaces required to accommodate them. The programs provide the content of the functional requirements sections of the Project Summary and Project Development Brochure, and the Requirement for Project section of DD Form 1391. Preparation of the PDB is further explained in TM 5-800-3, preparation of the 1391 is explained in AR 415-15.

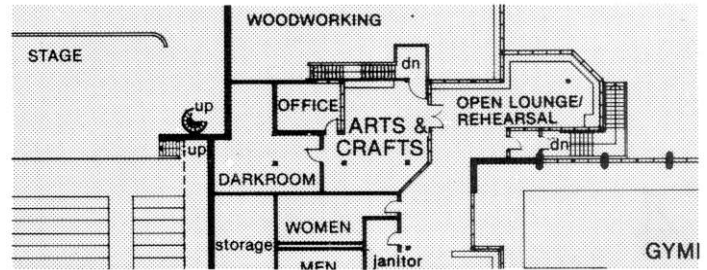
This chapter should be used by Morale Support Activities officers and staff, the Facility Engineer, other using services potentially involved in the proposed centers, the coordinating committees mentioned in the previous chapters, and user committees including representative troops, parents, youth, volunteer staff, interest organizations, or other affected groups.

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4 - 2

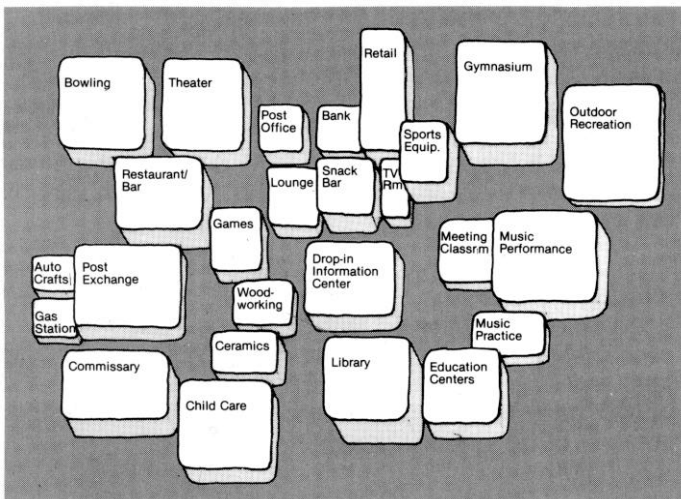
Program Considerations



The program for an individual Community Activity Center should be developed in the context of the overall Community Framework, as discussed in Chapter 3. This provides the functional program basis for the CAC and an understanding of its relationship to all the other community facilities. The following considerations are important general issues which affect the programming of Community Activity Centers. Issues specific to Main Post Centers or Local Centers are discussed in sections 4 - 3 and 4 - 4 .

a. Range of Functions

The range of functions that can be accommodated in Community Activity Centers is extremely broad and variable. The general types of CAC's and the implications of specialized and nonspecialized activities are described in Chapter 3, and should be referred to in understanding individual building programming. However, even within one type of CAC, there is considerable choice as to which functional areas to include. This variety is suggested in the typical functional area programs indicated in table 4 - 1. The selection of functional areas to be included in any CAC will vary from post to post, depending on local needs.



b. Troops and Families

Various Community Activity Centers should be designed in order to serve troops and families. Both are part of the post community, and the morale of both contributes to accomplishing Army missions and retention of quality military personnel. The increased proportion of military personnel at all levels who are married, highlights the importance of this consideration.

Troop life and family life are inevitably mixed in a post-wide environment, but not on the local residential level. Most existing MSA facilities have been located and designed primarily for use by the troops; and even where the opportunity exists, families often feel excluded or do

Table 4 - 1 Main Post and Local Centers: Typical Functional-Area Programs

	Main Post Center	Small Local Troop Center	Large Local Troop Center w/Spec. Act.	Local Family Center w/Spec. Act.
Social Activities				
Large Program Area	x		x	
Games	x	x	x	x
Television	x	x	x	x
Small Multi-purpose Areas	x	x	x	x
Information, Tour, Travel	x		x	
Snack Bar	x	x	x	x
Amusement Center	x		x	
Arts & Crafts				
Ceramics	x			x
Painting, Sculpture	x			
Glass, Jewelry, Metal	x			
Weaving, Textiles	x			
Photography	x	x	x	x
Woodwork/Repair	x		x	x
General Crafts		x	x	x
Auto Repair	x			
Music & Drama				
Large Performance Hall	x			
Small Performance Space	x	x	x	
Stage in Multipurpose Gym				x
Experimental Theatre	x			
Practice/Listening	x	x	x	x
Instrument Check-out	x	x	x	x
Rehearsal Rooms	x		x	
Library				
General Collection	x		x	x
Reference	x		x	x
Periodicals	x		x	x
Children's Collection	x			x
Study Space	x		x	x
Technical Services	x			
Paperback Book Collection	x	x	x	x
Physical Fitness				
Gymnasium	x		x	x
Swimming Pool (indoor)	x		x	
Swimming Pool (outdoor)				x
Handball/Racquetball	x		x	x
Exercise Rooms	x		x	x
Youth Activities				
Drop-in				x
Programmed Activities				x
Large Space Activities				x
Child Care				
Indoor Activities	x			x
Outdoor Activities	x			x
Other				
Bowling	x			
Chapel/Religious Ed.	x			
Family Services	x			
Commissary	x			
Main Exchange	x			
Exchange Service Outlets	x			
Gas Station/Car Wash	x			
Liquor Store	x			
Post Office	x			
Restaurants	x			
Theatre	x			
Thrift Shop				

not take advantage of these facilities. A number of social problems, related to interaction of different age groups and interests, may arise from the mixture of troops and families.

In consolidated facilities, scheduling to separate user groups becomes complex, because a variety of activities are occurring at once, and ongoing use throughout the day on an informal drop-in basis is a primary goal of a successful center. In addition, the mixture of different user groups also builds a broader sense of community and encourages exposure to different programs. However, for MSA and community programs to be most effective, some provision of separate facilities for troops and families is desirable.

Local Centers can be programmed either for troops or families, or for both together, if necessary. The Centers should be located within the troop billeting or family housing areas they serve. While the overall types of functions in troop centers and family centers do not differ greatly, the specific activities taking place in each will differ because of divergent interests. For example, the arts and crafts area in a troop center might provide general handicrafts, tools and a photography lab; while in the family center, it might consist of a large general crafts area for home repair, ceramics, and sewing classes. A comparison of typical function programs for these two types of Local Centers is shown in table 4 - 1.

Main Post Centers serve the entire post population and should accommodate both families and troops. They should be designed to be convenient and accessible to both groups. Specialized facilities can be scheduled to accommodate both groups at different times, while ensuring that there are some activities available to both groups at the same time.

c. Consolidation and Staffing

MSA programs, when accommodated in separate facilities, have generally included programmed activities (arts and crafts, drama, library, youth activities) which require supervision by technical program specialists. These technical program specialists are 'typically civilian professionals, who in addition to working in their specialty are required to perform duties in connection with facility operation and administration. The hours spent in administrative and operational tasks do not provide the best use of their technical expertise.

In a consolidated CAC, many of the programmed activities require specialists on a supervisory, non-resident basis only, and can largely be staffed by support staff with training in several technical areas. Under the consolidation concept, the roles of the support staff should be expanded to include operation and supervision of appropriate aspects of the specialized MSA programs, such as light crafts and household repair activities, sports not requiring instruction, and musical instrument checkout.

Community Activity Centers will also have facility management staff in addition to technical program specialists and support staff. The CAC management staff will be professional personnel assigned to the management of these multipurpose facilities.

The less specialized a facility is, the more easily it can be operated with support staff and fewer personnel. Additionally, support staff are more readily available and less costly than technical program specialists. Hence, using more support staff will allow centers to operate more economically and stay open longer. However, program quality will be lowered if technical program specialists are not used to staff appropriate activities.

In programming Community Activity Centers, it is the less specialized activities which are most readily consolidated. Local Centers are typically less specialized. For instance, arts and crafts areas would have self-directed handicrafts -leatherworking, macrame, sewing classes, model-making - but not heavy woodworking equipment. Less specialized activities, that do not require technical equipment, can more readily share general purpose spaces with other activities. Local Centers with some specialized activities might include a swimming pool or gymnasium near social recreation spaces, permitting supervision of both with fewer staff and fewer program specialists. In programming these centers, consideration should be given to the potential savings in shared activity and/or support space, in numbers of staff and increased use of support staff, and gains in longer operating hours, that can result from consolidation.

d. Re-using Existing Facilities

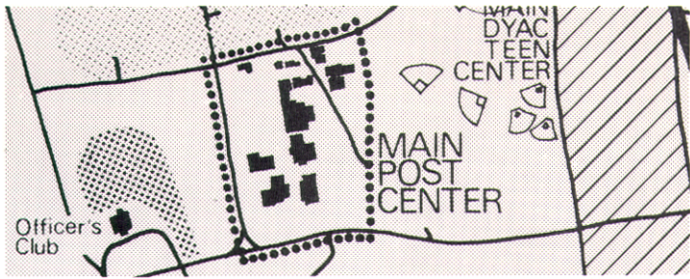
Considerations of renovation and re-use of existing structures for Community Activity Centers apply both to existing MSA facilities and to buildings previously utilized for other functions. Both may provide rapid and economical means of satisfying the major needs of the community.

Many well-designed recreation centers, gymnasiums, arts and crafts centers, and libraries already exist on many posts. When accompanied by music, theatre, commercial and other missing community functions accommodated through renovations or additions, these existing buildings can serve as excellent Community Activity Center complexes. If located nearby, enclosed linkage between the buildings may be possible. This approach is often more cost effective than new construction.

As posts expand and contract, their needs change and buildings inevitably become available for new uses. Many excellent permanent buildings, whether or not formerly used for community purposes, may be renovated to provide more cost-effective accommodation of community activities than new construction.

In programming existing facilities for re-use, the projected Community Activity Center functions and programs may need modification. Some activities may not be possible to accommodate, and consolidation of additional functions may be suggested by the available spaces. The existing space pattern may limit some of the openness and internal accessibility that permits coordinated program operation and staffing.

However, the use of existing space may be coordinated with a process of phased construction, in order to provide services quickly and to take advantage of small sources of funding. Programming for re-use of existing facilities must be particularly flexible in order to make the best match between available space and service needs.



4 - 3

Main Post Center

a. Description

The Main Post Center is the center of community life, the place to go for leisure activities, like a town center or the downtown of a small city. There is only one on an installation. It concentrates all major post-wide MSA facilities, post exchange, commissary, other commercial functions, and community service facilities in one central location. The co-location and mixture of commercial facilities, such as the PX, with the MSA and other community facilities, provides greater exposure, attraction and convenience for all the functions, and encourages their use. The Main Post Center should be a visible, identifiable focus for the community (see figure 4 - 1).

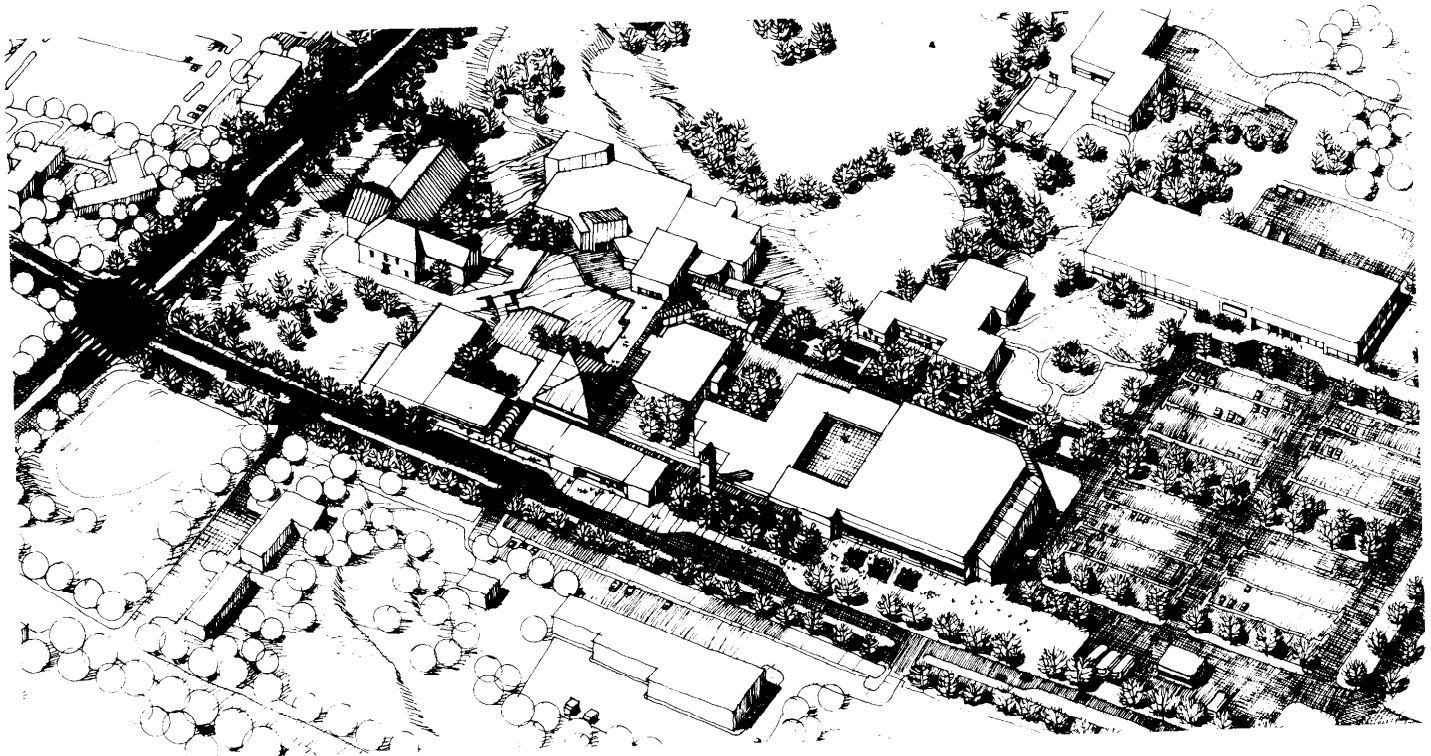


Figure 4 - 1 Main Post Center

b. Population Served

Main Post Centers serve the entire population: all military personnel, on-post and off; families and dependents; eligible civilian employees; and retired military in the area. Main Post Centers for larger installations are discussed and illustrated in this section. For posts of military strength under about 3,000, Main Post Center facilities may be similar to the Local Centers described in section 4 - 4.

c. Location

The Main Post Center should be located central to, and conveniently accessible from, all major areas of daily life functions - post administration, mission operations, housing for all user groups, main off post access. It should be highly visible, perhaps on the main entry road of the

post near the administrative center. Its location should not favor one area of the post over another. Locations of existing major facilities, such as a main exchange or partly developed post community center, may provide the logical starting point for the Main Post Center development (see figure 4 - 2).

d. Size

The size of Main Post Centers varies widely, depending on the population served and the functions and facilities provided. A typical space program, illustrating a range of sizes for component facilities, is found in table 4 - 2.

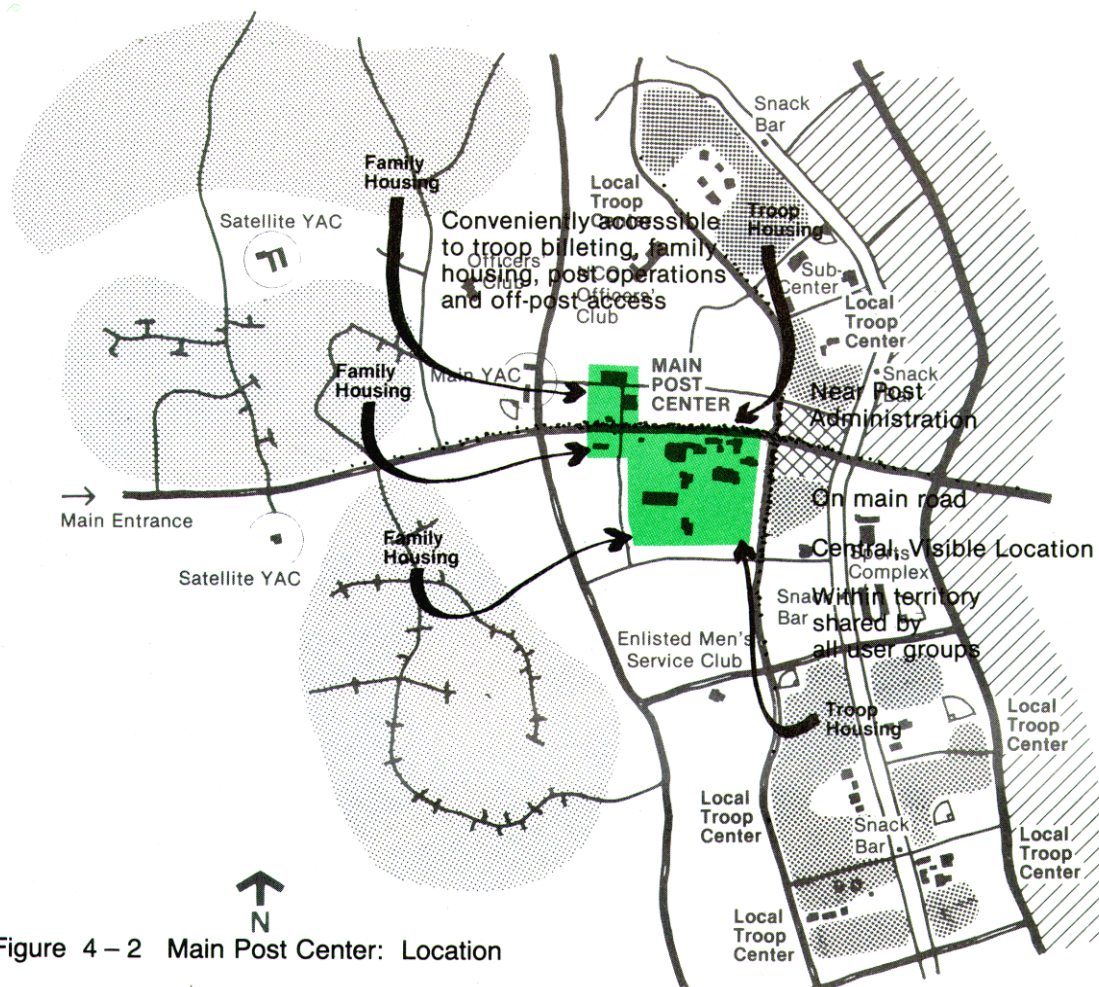


Figure 4 - 2 Main Post Center: Location

Table 4 - 2 Main Post Center: Typical Space Programs

Typical Space Programs for Centers Serving Military Strength of 10,000-25,000

<u>Function-Space</u>	<u>Area Ranges (Gross Square Feet)</u>	
Social Activities	44,230-83,400	
Large Group Activities	5330 -19200	
. Central Program Area	4200-13500	
. Platform	880-4950	
. Pantry	250-750	
Small Group Activities	19590 -36300	
. Active Games	4700-11500	
. Television Lounge	1000-3750	
. Table Games	2000-3500	
. Open Multi-Purpose	3020-3750	
. Enclosed Multi-Purpose	4510-7500	
. Telephone Lounge	600-900	
. Carrels	1510-1800	
. Special Interest	2250-3600	
Administration	2500 -4100	
. Offices	1600-2300	
. Information, Tour & Travel (ITT)	500-800	
. Control Center	400-1000	
Refreshment	14320 -20000	
. Snack Bar	4720-8000	
. Amusement Centers	9600-12000	
Support	2490 -3800	
Arts and Crafts	10,300-20,650	
General	4130 -8260	
. Pottery & Ceramics	800-1600	
. Glassblowing	300-600	
. Drawing & Painting	880-1760	
. Jewelry & Art Metal	600-1200	
. Weaving & Textiles	850-1700	
. Sculpture & 3D Design	700-1400	
Other	6170 -12390	
. Photography	830-2060	
. Woodwork & Repair	3140-6530	
. Crafts Supply Shop	600-1000	
. Crafts Store	800-1200	
. Support	800-1600	
Music	14,000-20,000	
Performance Halls	8000 -12000	
Practice Rooms and Modules	1200 -1600	
Listening Spaces	100 -200	

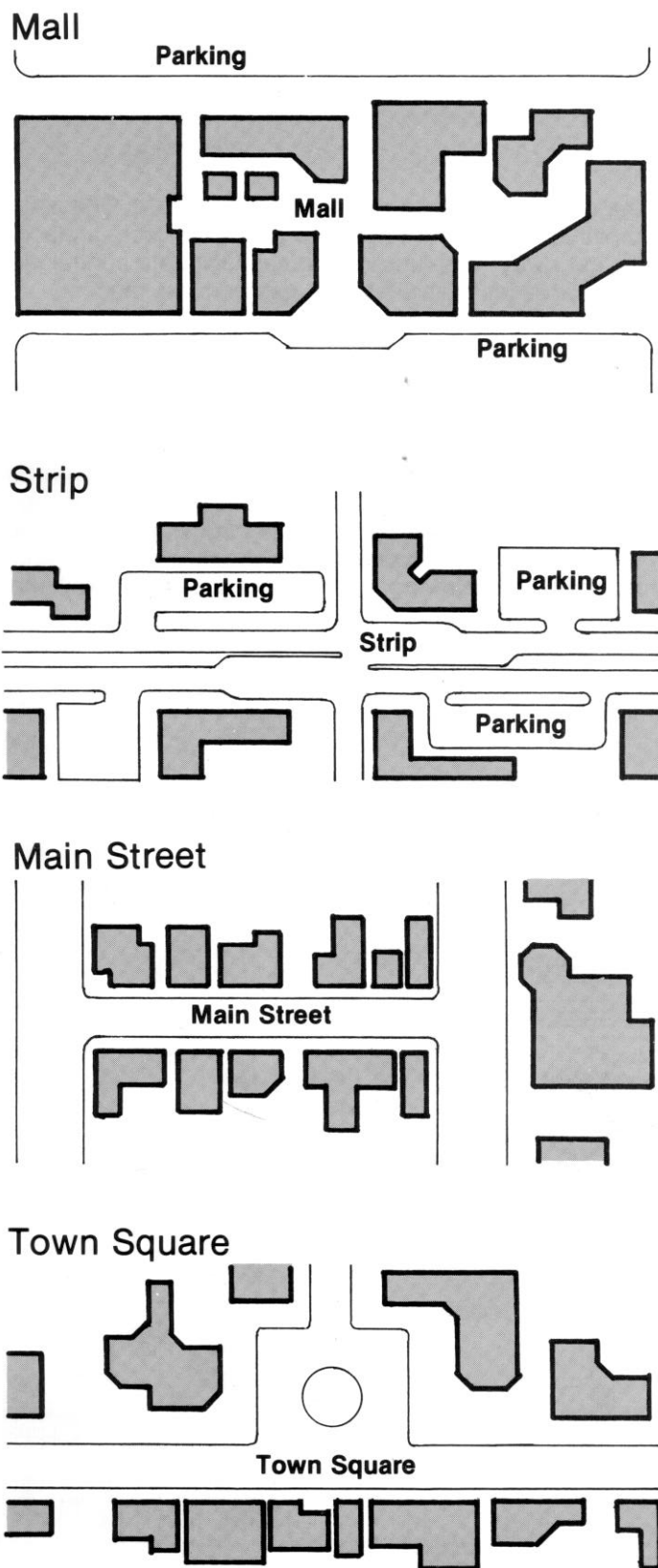
(Continued)

Chapter 4

Table 4 - 2 (Continued)

Library		18,000-30,000
Primary Use		13710 -24050
• Card Catalogue	550-1390	
• Reference	1800-2770	
• Periodicals	440-2010	
• Children's Collection	2600-4270	
• Stacks	4200-6940	
• Reading & Study	4000-6400	
• Typing & Listening Booths	120-230	
support		4290 -5950
• Control & Offices	890-950	
• Extension Collection	300-420	
• Technical Services	1400-1800	
• Other Support	1700-2780	
Physical Fitness		50,000-62,000
Gymnasium	23230 -23230	
Platform	2070 -2070	
Swimming Pool	11560 -18260	
Handball/Racquetball	1830 -3910	
Exercise Rooms	4570 -6560	
Outdoor Swimming Pool (125 meter)		
Support	6740 -7070	
Child Care		11,560-19,390
Primary Indoor Activities	8020 -14460	
Support	3540 -4930	
Bowling Facility		38,700-46,250
Chapel and Religious Education		12,260-24,020
Family/Community Service Center		3,000-3,200
Military Recreation Supply/Support Facility		12,500-20,500
Commissary		See Note
Exchange Facilities		See Note
Amusement Center	6500 -11000	
Cafeteria & Snack Bar	12600 -18600	
Gasoline & Service Station	8860 -14550	
Car Wash	2560 -3480	
Main Retail Store	See Note	
Barber Shop	500 -960	
Coin Operated Laundry	2150 -3800	
Optical Shop	600 -780	
Personal Services	400 -460	
Portrait Studio	930 -1010	
Radio-TV Repair	1280 -1480	
Shoe Repair	500 -900	
Tailor	800 -900	
Valet	1300 -1500	
Watch Repair	400 -460	
Package Liquor Store		See Note
Post Office		6,325-12,525
Restaurants		up to 37,000
Theaters		See Note
Thrift Shops		5,300-6,300

Note: Determined by criteria other than military strength.



e. Building Organization

The Main Post Center may assume a variety of configurations, based on models of community centers from civilian life. Selection of the appropriate model will depend on local factors such as climate, access patterns, and the location and organization of major facilities which already exist. Combinations of these design models may also be considered. Most of these models assume development of the Main Post Center as a complex of separate buildings, but the “under one roof” approach can be applied with the mall concept. Figure 4 - 3 diagrammatically illustrates these models.

- (1) Mall.** This model is derived from the shopping mall, where individual facilities are accessible on foot, after arrival by automobile or transit system. It is a complex of separate or connected structures for retail, recreational and service functions, connected by open or closed pedestrian spaces. It could be constructed as a single building, or in successive phases of attached construction to create a complex of facilities under one roof, and is often seen in enclosed shopping malls in civilian life.
- (2) Strip.** In this model, major facilities are concentrated along a major road, providing primarily vehicular-scaled activity and access. New facilities can be added to reinforce the commercial and service character of an existing strip, and provide continuity from one facility to the next.
- (3) Main Street.** The main street model is similar to the strip model in its combination of automobile and pedestrian access. A street, not a major road, passes through the center; and the activity-density is pedestrian-scaled. Buildings are arranged continuously along one or both sides of the street.
- (4) Town Square or Town Green.** In this model, the Main Post Center facilities surround or overlook a major open space. The open space might be a crossroads or street-widening in the case of a town square, or a parade grounds or large lawn in the case of a town green.

Figure 4 - 3 Main Post Center: Building Organization-Alternative Models

f. Functions

The Main Post Center accommodates commercial, MSA and other community functions. It provides the major facility for each function, to serve the whole post population. These typically include specialized or highly technical activities requiring specialist staff and equipment. A Main Post Center may include, but is not limited to, the functions described below. The program of facilities and sub-spaces for a typical Main Post Center are presented in table 4 - 2, the building plan for which is illustrated in figure 4 - 4.

(1) Social Activities. Drop-in lounging, eating, meeting and games (commonly found in a recreation center) are

the primary functions of a Main Post Center. The center provides a place for relaxation and socializing, a place "to get away." Its functional areas include a central program area for special events, games area, meeting rooms, information center, information/tour/travel (ITT) operation, snack bar and amusement center.

(2) Arts and Crafts. The type of arts and crafts activities included in the Main Post Center are those requiring highly technical, expensive equipment, and specialist staff supervision, often provided at only one location on post. These may include art activities such as painting and drawing, sculpture and photography, as well as multiple crafts, including pottery and ceramics, jewelry and lapidary, glassblowing, and heavy and light woodworking.

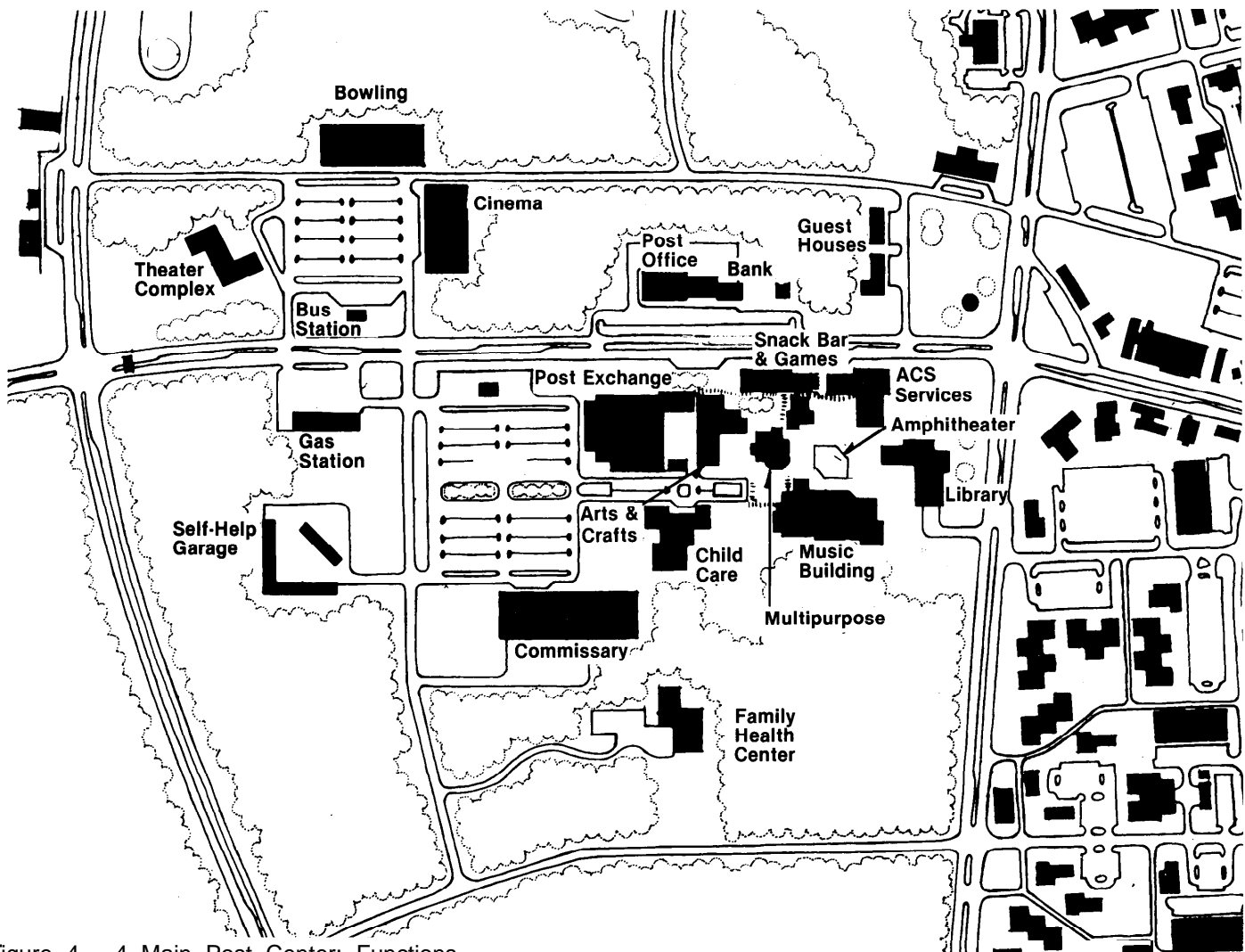


Figure 4 - 4 Main Post Center: Functions

- (3) Music.** The Main Post Center should include a number of small practice rooms, larger rooms for jam sessions and small performances, large and small performance halls, an instrument checkout and storage area, as well as support spaces such as backstage, lounge, and vending areas.
- (4) Drama.** Drama activities may share performance spaces, or be programmed as separate theater facilities, which include flexible performance space, rehearsal rooms, workshop/storage area, dressing rooms, and green room.
- (5) Library.** The Main Post Center may be the location for the main post library, if it is not located elsewhere to be more convenient to the post administrative and educational functions. Even a branch library at this location should include a large stack area, periodicals area, catalog of the entire post collection, reading area, and staff work space.
- (6) Physical Fitness.** Physical fitness facilities are major attractions and generate activity for the whole Center. They are heavily used by both troops and families, and should include a large gymnasium, indoor swimming pool, handball/racquetball courts, exercise rooms, saunas and necessary support facilities.
- (7) Outdoor Sports.** Often it is not possible to provide playing courts and fields for outdoor sports at a Main Post Center, due to the density of building. However, where possible, it is desirable to include tennis courts, a playing field, basketball courts, and their related support and equipment storage facilities. Central administrative and support facilities for other outdoor sports, such as golf, swimming and team sports, might be located here, although they may function better at a separate comprehensive post sports complex.
- (8) Auto Crafts.** An Auto Crafts facility may be programmed at a Main Post Center. This is an actively used facility and would be a user attraction. However, because of potential visual, noise and exhaust pollution, it should be in a separate, visually screened structure. It requires good vehicular and service access, and large parking and outdoor service space.
- (9) Bowling.** This is another important activity generator that will yield mutual exposure, interaction and sharing benefits with other functions located together at the Main Post Center.
- (10) Child Development.** Child development facilities may or may not be located at the Main Post Center. This depends on development of a post-wide pattern which provides all three major components - full day care, part day and hourly care - adequately on the installation. The provision of hourly care at the Main Post Center would permit greater use of the other functions by families. Full and part day care must be conveniently located for the families; whether they should be in the Main Post Center depends on its relationship to family

housing and activities. Whatever child development facilities are provided, they must include indoor and outdoor spaces for infants, toddlers, preschoolers, and schoolage children.

(11) Commissary. The commissary is a primary facility in the Main Post Center. It attracts a major clientele for the Center, thereby providing exposure to and encouraging use of the other facilities. The commissary should be accompanied by other related commercial facilities.

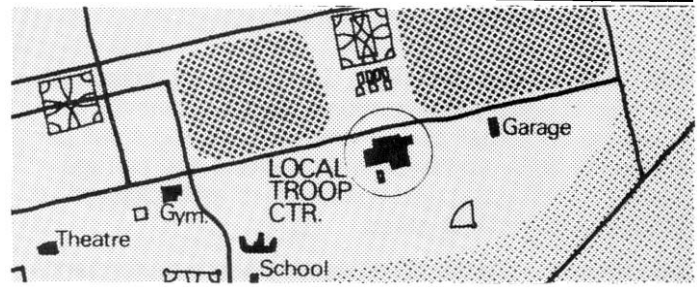
(12) Exchange Facilities. The exchange facilities at the Main Post Center should include most of the other central commercial functions on the post. These include main retail stores, amusement center, movie theatre, gasoline station, car wash, cafeteria, laundry, barber shop, tailor, repair shops and other service outlets. As with the commissary, these are critical attractors and activity generators.

(13) Other Non-MSA Functions. Other facilities possibly located at the Main Post Center include the following:

- Open Messes (or Clubs) for enlisted personnel, non-commissioned officers, and officers - usually self-contained and detached from other activities, separation may be to the advantage of both the clubs and the CAC.
- Package Liquor Store - a useful retail addition to the Main Post Center, like the exchange facilities.
- Post Office, banks, credit union, restaurants, and the thrift shop - appropriate service components of the Main Post Center that combine well with the commercial and activity mix.
- Chapel and Religious Education - typically preferred as separate, independent operations; co-location at the Main Post Center would produce little mutual benefit, except at very small posts where the chapel functions could share meeting spaces with other activities.
- Army Community Services Center - may or may not be appropriate at the Main Post Center, depending on design and post-wide service pattern. The users of the human services programs desire shielding from excessive exposure which argues for a separate site; however, convenient access and availability of ACS would benefit from co-location.

4 - 4

Local Centers



a. Description

The Local Center is the focus of neighborhood life - the place to go for community, commercial and service activities, within walking distance in the neighborhood. Local Centers serve geographical subareas or population subgroups of the post. They are typically programmed separately for troops or for families, although in some circumstances they may serve both. These centers range from small facilities which accommodate only non-specialized activities, primarily recreational for a small population, to much larger facilities including diverse and variable specialized activities. The Local Center should be an evident, inviting place, convenient to the daily life of its users (see figure 4 - 5).

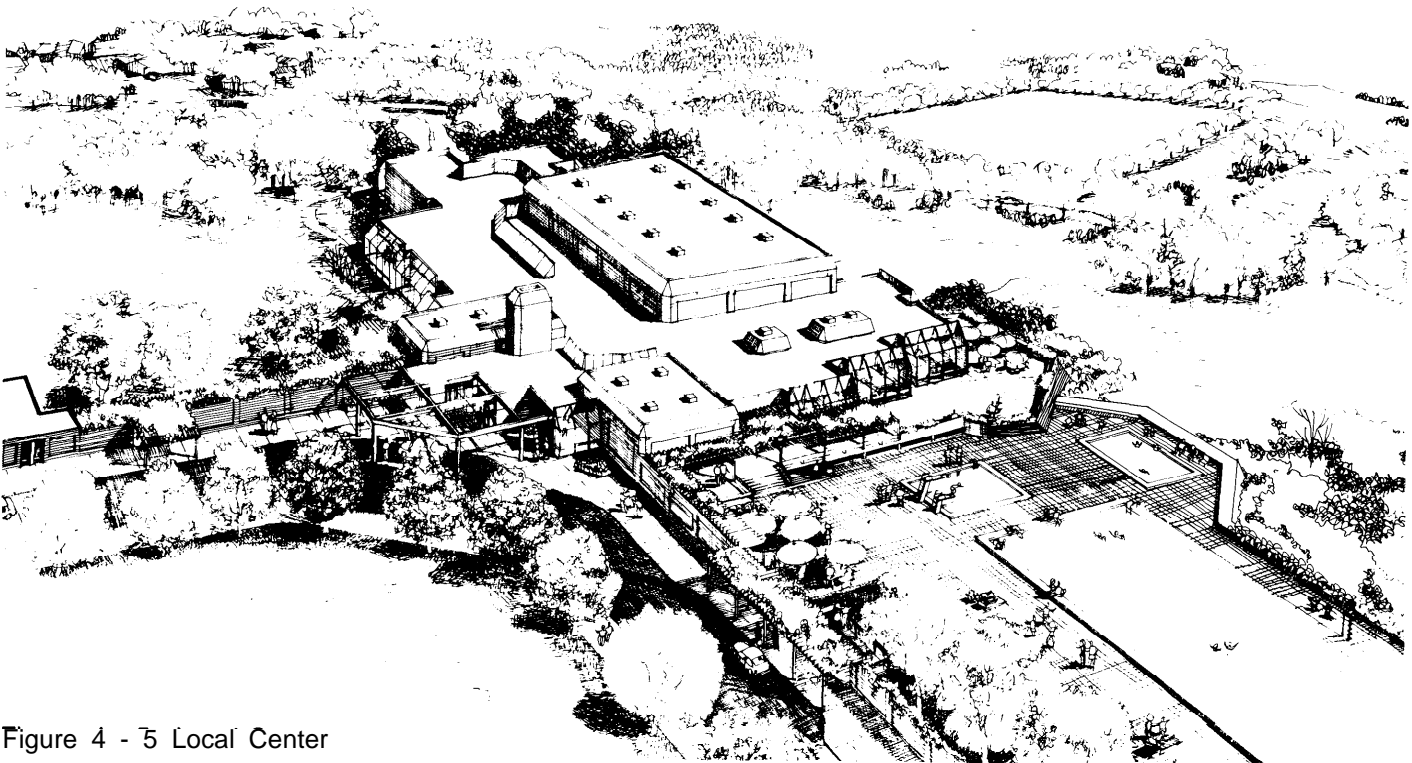


Figure 4 - 5 Local Center

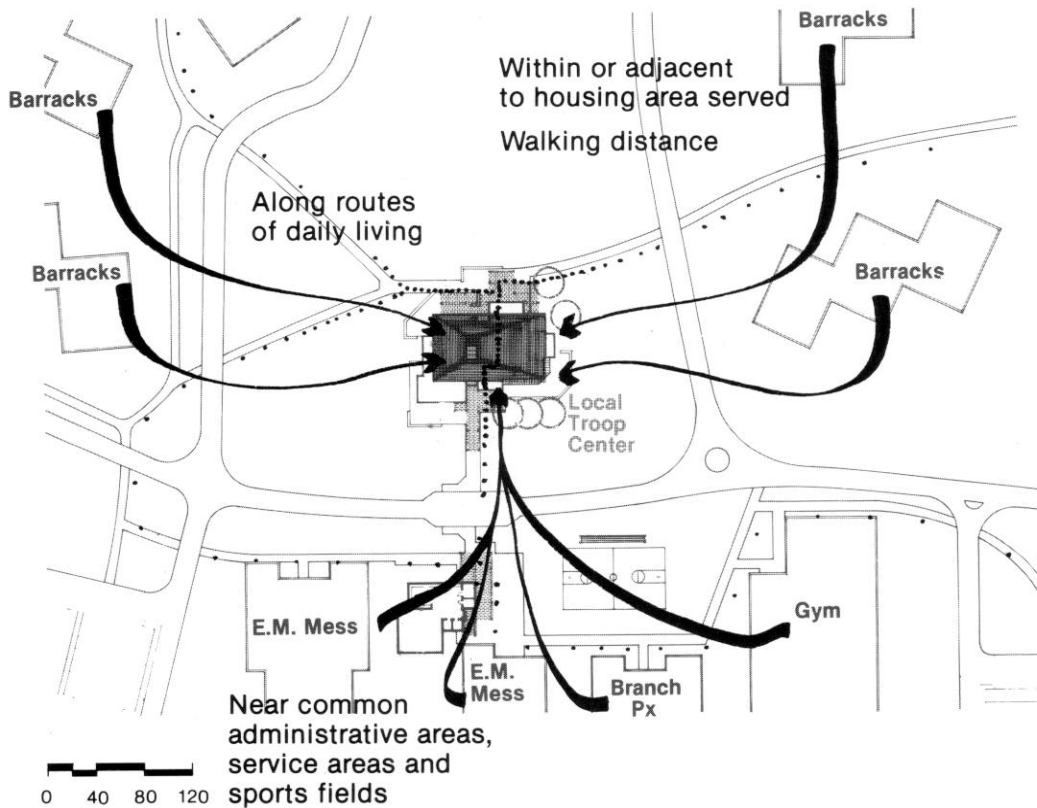


Figure 4 – 6 Local Center: Location

b. Population Served

Local Centers serve local geographic and population communities on an installation-troop billeting areas, brigade or other units, family housing areas. The served population may range approximately from 1,000 to 7,000. This could be one to two brigades or comparable troop units with a total of 1,000 to 7,000 troops; or it could be family housing areas for roughly 400 to 2,500 families, which include 1,000 - 7,000 persons, depending on family size; or a mix of troops and families with an equivalent total population. If a center is programmed to serve both troops and families, there must be effective scheduling of activities for separation of use, as necessary. In Local Centers with specialized activities, some broader post-wide population will be served by specialized functions unique to the installation.

c. Location

Local Centers should be located along the routes of daily life of the people they serve. They should be within, or adjacent to, the geographical areas they serve. For Troop Centers, the best location would be amid the brigade administrative and common areas, or in the open space between the two brigade billeting areas near existing playing fields and courts. Family Centers should be located at the heart of the family housing area. The centers should be within walking distance of all the billeting or housing units served, amid other support facilities if they exist (see figure 4 - 6).

d. Size

The size of Local Centers varies greatly, depending on the size of the population served, the functions accommodated, and the degree of specialized activities included. They may be as small as 6,000 square feet, or as large as 80,000 square feet, in area. Typical space programs for such Centers are found in table 4 - 3.

Table 4 – 3 Local Centers: Typical Space Programs

Function-Space	Area (Gross Square Feet)		
	Local Troop Center w/Spec. Activities serving 7,000 troops	Local Family Center w/Spec. Activities serving 3,000 families	Local Troop Center Serving 3,000 troops
Social Activities	15,470	10,530	3,520
Small Group Activities	10,800	7,720	2,570
• Active & Electronic Games	2050	2830	910
• Table Games	950	1400	310
• Television Lounge	1680	880	280
• Open Multi-Purpose	1250	560	530
• Enclosed Multi-Purpose	3080	2050	540
• Telephone Lounge	160	-	-
• Meeting/Rehearsal	1630	-	-
Administration	1,160	810	400
• Offices	600	250	-
• ITT	200	560	-
• Control Center	360	-	400
Refreshment	3,510	2,000	550
• Snack Bar	2740	1200	550
• Kitchen	770	800	-
Arts and Crafts	5,950	8,230	1,500
General Crafts/Woodwork	4450	6000	1200
Photography	500	500	300
Support & Supply	1000	1730	-
Music	2,470	1,340	240
Practice & Listening	1920	1020	240
Instrument Checkout	550	320 (in control)	-
Drama	11,610	5,600	-
Theatre	7960 (in gym)	-	-
Stage	3650	2560	-
Dressing/Rehearsal	(in general)	480	-
Storage		2560	-
Library/Reading Area	4,950	2,440	960
Card Catalogue	120	80	-
Control & Office	930	150	-
Periodicals	750	360	960
Stacks	1010	890	-
Reading	2140	960	-
Physical Fitness	28,340	15,460	-
Gymnasium	9400	7650 (nearby)	-
Swimming Pool	9000 (outdoor)	-	-
Handball/Racquetball	3200	2400	-
Exercise	2480	1300	-
Support & Office	4260	4110	-
Child Development	-	6,640	-
Primary Activities	-	3490	-
Support	-	3150	-
General Support	5,220	1,800	400
Office/Maintenance	100	100	100
Toilets	1000	700	200
General Storage	4120	1000	100
Total	74,010	52,040	6,620

e. Building Organization

Local Centers consolidate a set of non-specialized activities together with a varying range of specialized activities. The organization of the building should maximize the ability of the facility and its activities to be operated, supervised by support staff from a central control position. This should be predominantly the case in a small, non-specialized Local Center (see figure 4 - 7), which

should be designed for minimum supervision, with most areas of the building open and accessible whenever the center is in operation. But, even in a larger center (as in figure 4 - 8), support staff should be able to operate some of the functions, without program specialists, so these spaces can be accessible whenever the center is open. The more highly specialized functions may require separate, closed spaces, accessible only with program specialists present.

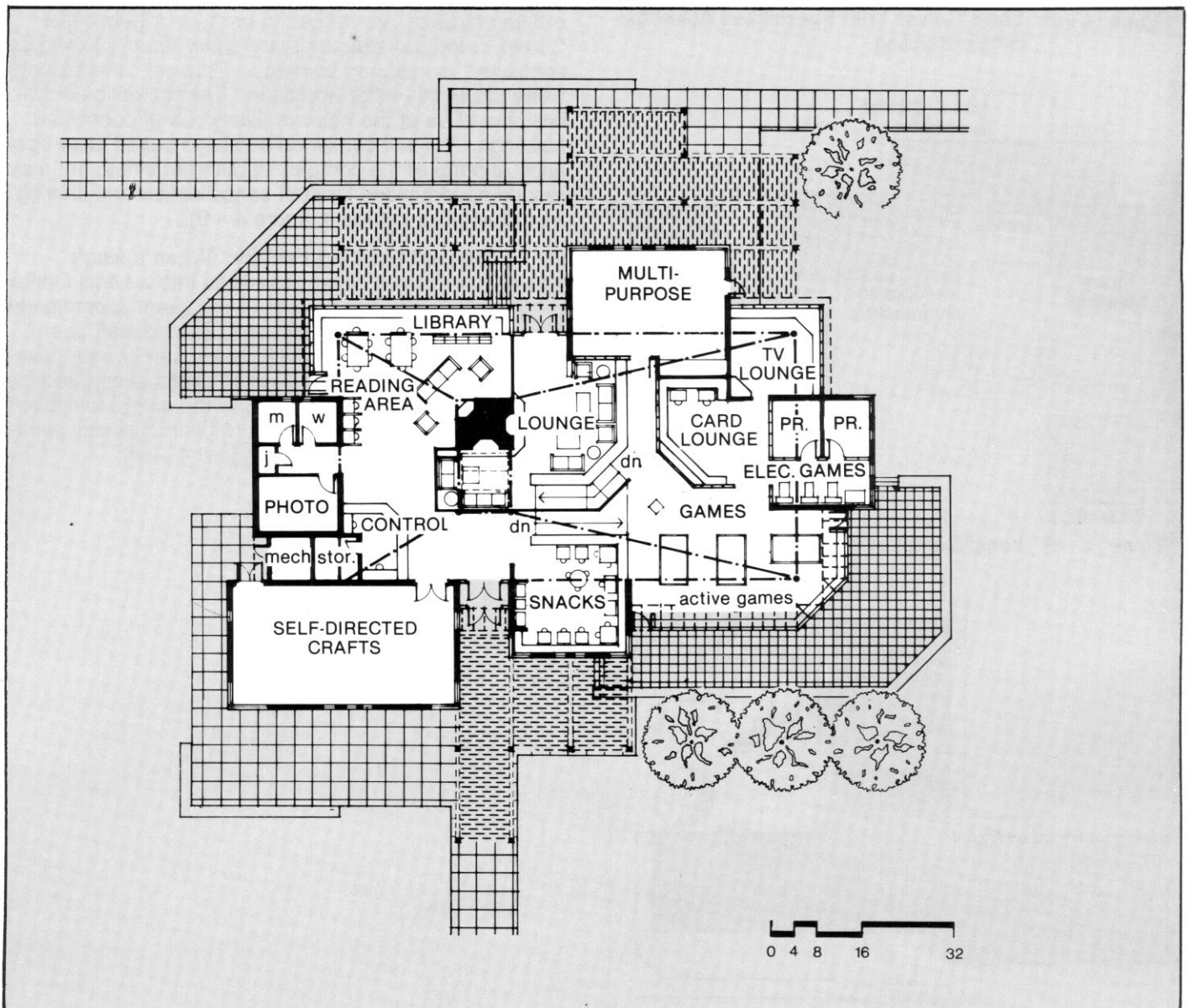


Figure 4 - 7 Small Local Center: Single Building

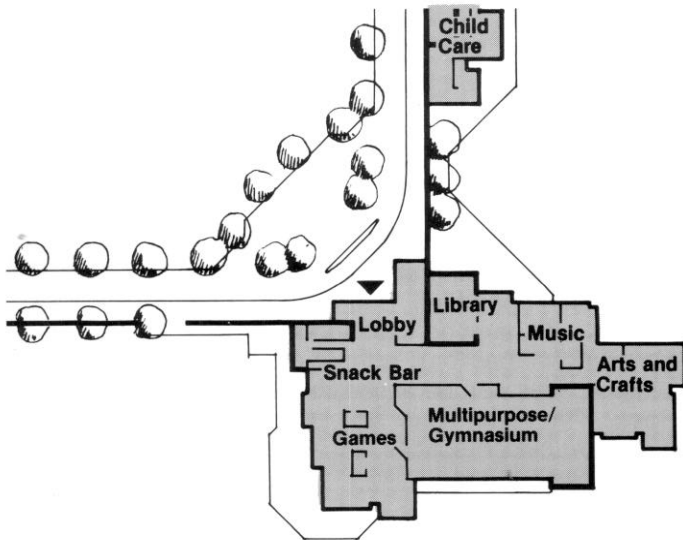


Figure 4 – 8 Local Center With Specialized Activities: Single Building

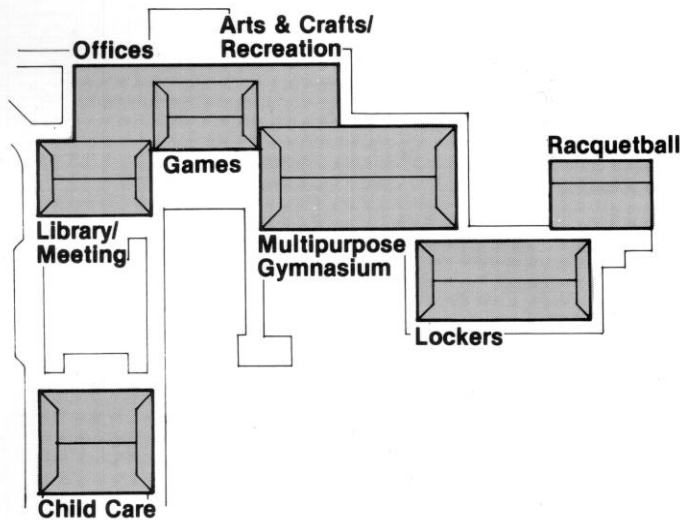


Figure 4 – 9 Local Center: Complex of Buildings

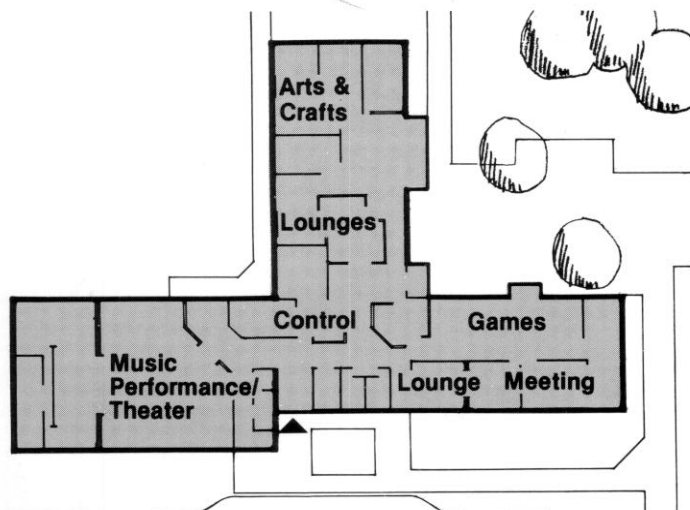


Figure 4 – 10 Local Center: Reused Existing Facility

The consolidation of these varied activities may take the following forms:

(1) A Single Building. This approach is the most common for new construction. All activities are combined within the same building. The nonspecialized drop-in, social activities and control spaces are in the center of the building and the more specialized activities surround this core (illustrated in figure 4 - 8).

(2) A Complex of Connected Buildings. This model may be used in new construction or when several existing facilities are reused to produce a new Local Center. Separate structures are either directly joined or connected by covered walkways. Tropical climates particularly justify this latter approach. The recreation activities should be at the heart of this group of connected buildings. The self-contained buildings permit easy operation of parts of the complex at different times, but may reduce opportunities for staff consolidation and sharing (see illustrative example, figure 4 - 9).

(3) A Reused Existing Facility. When a single existing structure is being renovated into a Local Center, compromises may be expected in program accommodation, openness, visibility, and consolidated staff operation. Programming of activities for the center may have to be adjusted. Nonetheless, the principles of consolidation should be applied in the design, to the extent feasible. Specialized functions may have to be in distinctly separate wings of the building (see figure 4 - 10).

f. Functions

Local Centers include mostly Morale Support Activities and closely related functions. They may accommodate primarily nonspecialized activities or a mix of nonspecialized and specialized, from among the following functional areas: (See table 4 - 3 for typical Local Center programs with subspaces, and figure 4 - 11 for a sample facility plan.)

(1) Social Activities. As in the Main Post Center, the social activities - drop-in, lounging, eating, meeting, and games - are an important focus for the Local Center. Spaces for these should be central, open, readily accessible, and closely intermixed with other functional areas. Essential elements are a lounge, snack area, multipurpose meeting rooms, amusement and games rooms, and television room. In larger centers, there would be a large

central program area for performances, or a theater, large music room or multipurpose gym which can serve this function. In smaller centers, with no large program space, the lounge/lobby area should be able to accommodate large group meetings and small performances.

(2) Arts and Crafts. Local Centers will primarily accommodate multiple crafts, possibly with some at-t activities. They should include at least a general self-directed crafts area and small photography lab. Some specialized crafts areas may be included, with different preferences for troops and families, as suggested below. Classrooms, galleries and support spaces are assigned to the consolidated central areas, shared with other programs.

- Troop Centers: woodwork, leather.
- Family Centers: ceramics, household repair, sewing and home arts classes.

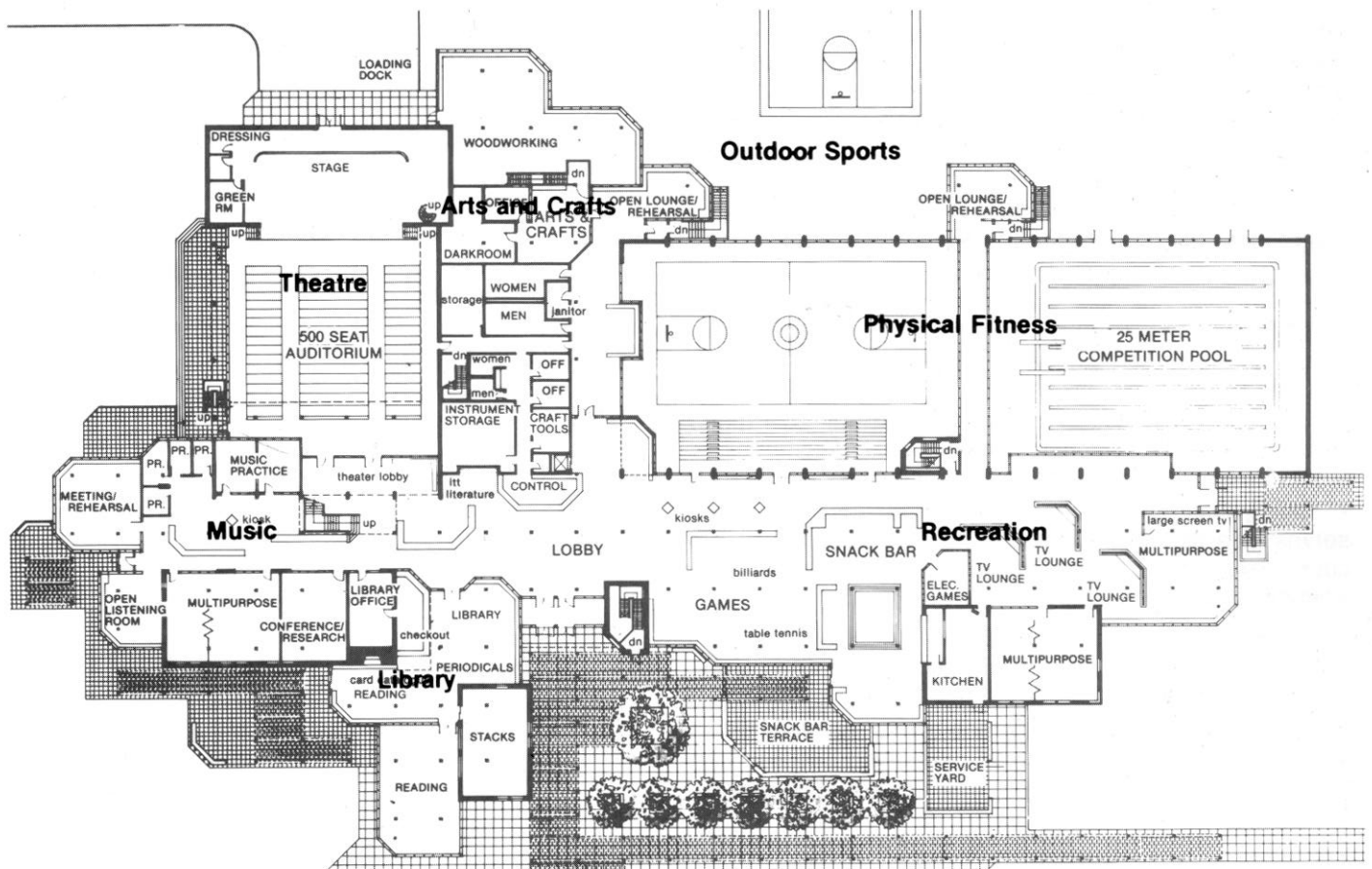


Figure 4 - 11 Local Troop Center: Functions

(3) Music. Instrument storage and checkout, music practice rooms, listening rooms, and spaces for jam sessions and small performances are essential to all Local Centers. Larger Centers may also have a large performance hall, although the large program area in the social activities spaces may suffice.

(4) Drama. Drama activities may take place in the central program area or multipurpose rooms. Support spaces are required if drama is to be an important function in the center. In addition to an auditorium with stage, support spaces include dressing rooms, rehearsal rooms, and a workshop/storage area. The scene shop area can often be combined with the arts and crafts wood shop area.

(5) Library. Branch libraries may be included in larger Local Centers. They have a general collection, card catalogue, reading area and periodicals area. In Family Centers, a children's room should be included. Although there is generally a separate library control desk, some of the supervision functions can be performed at the main control desk when library program specialists are not available. In a small center without a branch library, a small magazine, recreational reading, and paperback rack may be programmed for the lounge.

(6) Physical Fitness. Small Local Centers commonly do not have gymnasiums, but should be sited near existing gymnasiums and other such facilities. Physical fitness spaces are major generators of activity for larger Local Centers. They are heavily used by the troops. Due to funding priorities, swimming pools and other specialized facilities may or may not be programmed for the Family Centers. The physical fitness spaces in each type of center are as follows:

- Troop Centers: Three-module gymnasium, 25 - meter indoor or outdoor swimming pool, handball/racquetball courts, exercise and fitness rooms, and support spaces.
- Family Centers: multipurpose gymnasium which also serves as a performance space, handball/racquetball courts, exercise and dance rooms, possible outdoor swimming pool, and support spaces.

(7) Outdoor Sports. Troop Centers are often located near unit-oriented playing fields and courts. Family Centers include some playing fields and courts.

- Troop Centers: tennis courts, a track, baseball fields, a softball field, badminton courts, and basketball courts.
- Family Centers: tennis courts, a softball field, basketball courts.

(8) Youth Activities. Local Family Centers may include provisions for youth activities, unless they are separately housed locally for their independent identity. For program space, they will share all the functional areas described above. They should have their own administrative and equipment storage space, and possibly some dedicated meeting rooms.

(9) Child Development. Location of child development facilities is a matter of assuring an adequate post-wide provision of these services. However, Local Family Centers are very appropriate for full day, part day and hourly programs. Hourly care should be provided for the convenience of parents using the other facilities at the center, or other MSA and non-MSA services on post. Full day and part day programs located here, would benefit from the proximate location to family housing. Both hourly, full day and part day programs require separate spaces for infants, toddlers, preschoolers, and school-age children.

(10) Other MSA and Non-MSA Functions. Bowling facilities, chapel, and Army community service facilities might be included at large Local Centers, if this fits the post-wide program. But, they are more likely appropriate at the Main Post Center. Some small commercial facilities are desirable, perhaps including a branch PX, retail store, small snack area, and postal service booth.

5

Design Considerations

5 - 1

Using This Chapter

This chapter addresses the process of turning the planning concepts and building programs into designs for Community Activity Centers. It presents the design goals, considerations and relationships essential to design criteria setting, preliminary design, and design development of these centers. Most critically, it provides an approach to consolidated design, for organizing and relating the multiple functions and spaces of Community Activity Centers. Design criteria for the individual functional areas within centers are covered in the Design Guides for the respective facility-types, which are excerpted and referenced in Chapter 7.

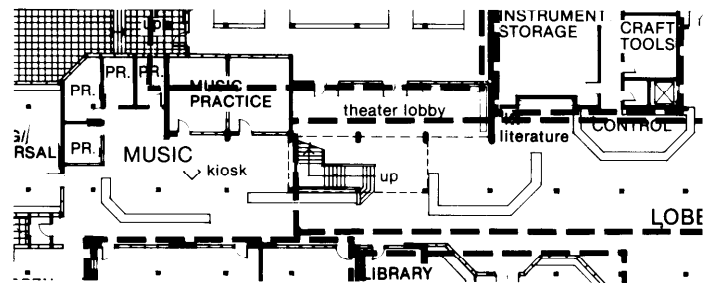
Design criteria requirements, pre-concept control data, and concept design stages of project development are the primary responsibility of the District Engineer. However, Morale Support Activities personnel, other using services, and involved post user groups influence these efforts through the programmatic requirements included in the PDB and 1391, which should reflect an understanding of the general design considerations presented here. The concept design stage also provides a final opportunity for all these on-post participants to provide input to the project through review and approval of the designs, before final design proceeds. The considerations and recommendations in this chapter should provide a general basis for reviewing concept designs.

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5 - 2

Design Goals



Design of Community Activity Centers as consolidated facilities can yield a broad range of benefits. Some can be measured directly against costs. Others are more qualitative and affect the way in which people view the centers and take part in the activities. Understanding these goals, and the design approach required to achieve them, is essential to successful design of Community Activity Centers. The following paragraphs describe the design implications of the principles discussed in the previous two chapters, and the considerations to be applied in developing individual projects.

a. Increased Use

(1) Encourage Exposure. Each Community Activity Center should become the center of activity for its users, a lively place, and the place to go where friends might be. The centers should be conveniently located along the common routes of daily life. Such regular exposure will encourage increased use of the center and all its component activities.

Certain functions such as physical fitness, games and recreation, the post exchange and commissary attract many users. Thus they can act as magnets for the whole center. Less actively used functions should be located along the routes to and from these more active facilities, to increase their exposure to new users and invite their participation. MSA functions particularly will benefit from co-location of post exchanges, bowling and other commercial services in Community Activity Centers (see figure 5 - 1).

(2) Increase Length of Stay. In separate facilities for single activities, users spend little time before and after the activity. In consolidated centers with many different activities, users spend more time both during and between activities. There are also opportunities for snacks, refreshments, reading, socializing and relaxing between activities. The increased length of stay suggests the possibility of exhibitions and events to heighten user awareness of the different programs at the center.

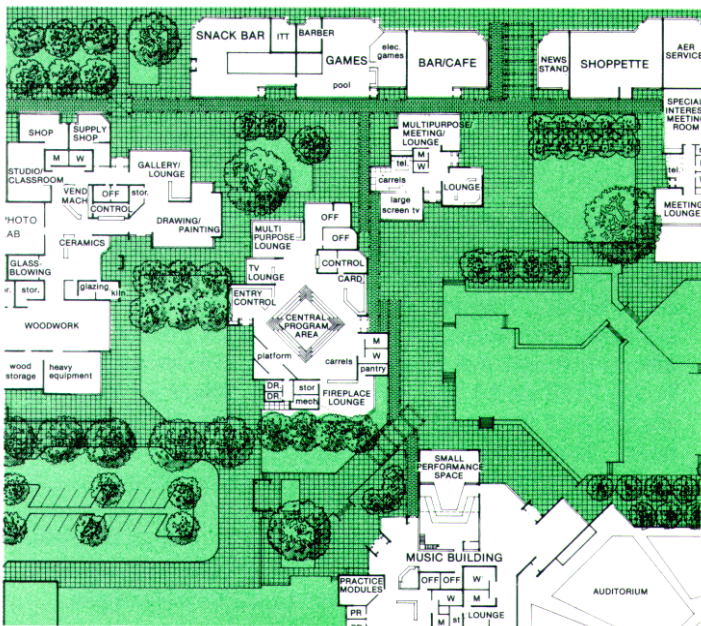


Figure 5 - 1 Exposure/Increased Use

b. Better Space Utilization

(1) Open Design. Each activity should be open to each other as much as possible so that the users become aware of the activities available. The activity spaces will benefit in liveliness from the activity of other areas. This is essential to build the sense of a community-centering place. The feeling of openness will increase the attraction and frequency of use, as well as the vitality of each individual function.

(2) Eliminate Duplication. Nearly all CAC functions require similar support spaces such as control areas, offices, lobbies, lounges, toilets, circulation and maintenance space. Many contain snack bars or vending areas. When functions are consolidated, these areas can be shared among the various activities in the center, reducing square footage by eliminating duplication. In addition, equipment storage, supply, check-out and sale for multiple functions can be combined in one location under single staff control. These support spaces should be designed so that they are accessible as needed from the various activity areas, with minimum duplication (see figure 5 - 2).

(3) Share Spaces. Consolidated facilities provide opportunities for two or more activities to share the same space. This may occur with similar activities such as the theatre scene shop and arts and crafts woodworking, which can share the same space and equipment. It may also occur in a space used by very different functions at different times: such as a multipurpose gymnasium used for sports, performances and dances; or meeting rooms used for music listening, sewing classes or club meetings.

To permit such shared use, spaces should be designed to be flexible and multipurpose. They should not be located or have a design image that suggests they are primarily for use by one program only. They should have movable or removable equipment and furnishings, and possibly movable partitions. There must be adequate, convenient storage for the equipment required by the different functions that use the space - more storage than is typically required for single-use spaces.

(4) Permit Separation. While sharing spaces and overlapping territories between functions is important for consolidated space savings, some distinctions of space are also important. The clear identity of individual programs is key for visibility and user attraction. Functional areas of the center must be distinct enough, and the circulation system so designed, that certain areas and programs can remain open and active while others are closed. This functional separation is essential to achieve efficiency of building operations, staffing and mechanical systems.

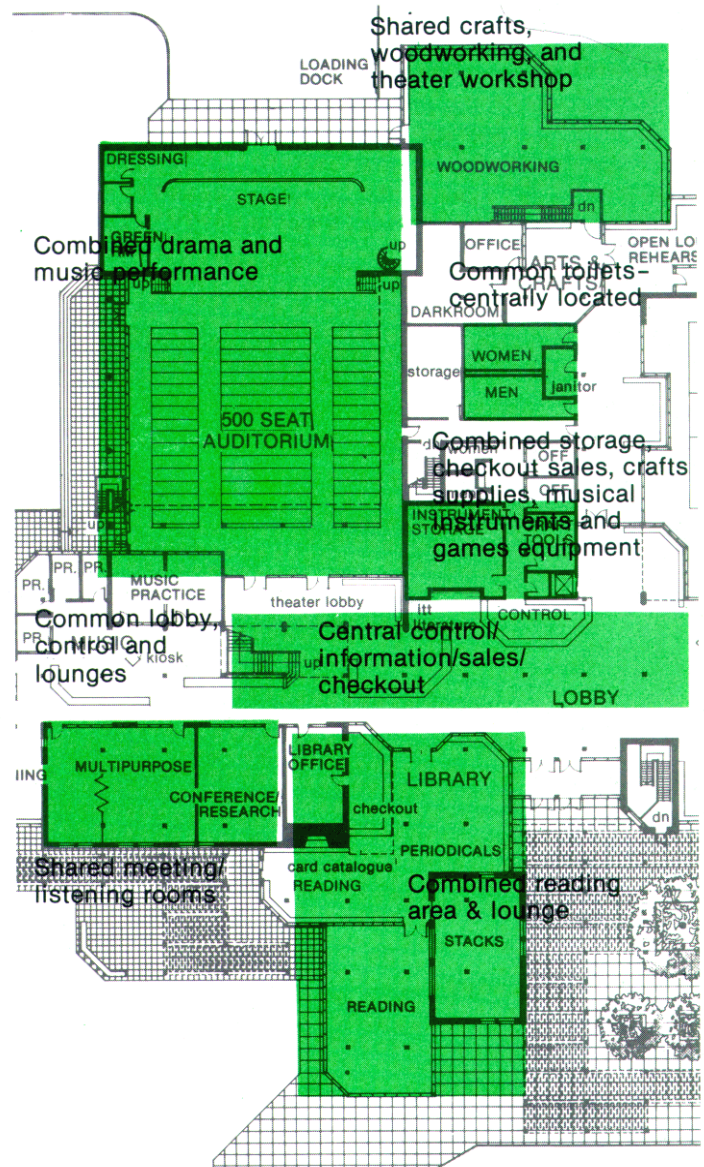


Figure 5 - 2 Space Savings

c. Effective Staffing

(1) Increase Staff Accessibility. Community Activity Centers should be designed so that staff are situated in highly visible and accessible locations in the center of the facility. Staff are thus more readily accessible to the users. This reinforces the efficiency of centralized staff overview and control over the multiple activities taking place (see figure 5 - 3).

(2) Use Versatile Support Staff. Due to the proximity of different activities within the center, it should be possible for CAC staff to oversee and support more than one activity at a time. Versatile support staff can begin to assume more of the general responsibilities for operating the center, as well as some of the less technical aspects of the specialized programs. Where appropriate, program specialist staff should be cross-trained to supervise many activities throughout the center, not just individual programs.

(3) Increase Coordination. It is far easier for staff to coordinate programs if they are located in the same center. In some cases, this may lead to interaction between the staff and users of one facility with those of another. For instance, people using the music facilities in a center may begin to take an active role in establishing a music-oriented collection in the branch library. This is an example of how facility consolidation will assist in implementing true activity integration.

(4) Reduce Numbers. Consolidation will probably yield significant overall staff savings to a post's MSA program. This will be brought about, in part, by personnel reductions in centers where similar activities can be supervised by fewer staff than would be required for separate facilities. Administrative and control areas can be centralized so that the staff can more easily supervise more than one activity. Specialized spaces should be located in areas which have easy access and overview from this control area, and should be designed with maximum use of glass walls to facilitate visibility.

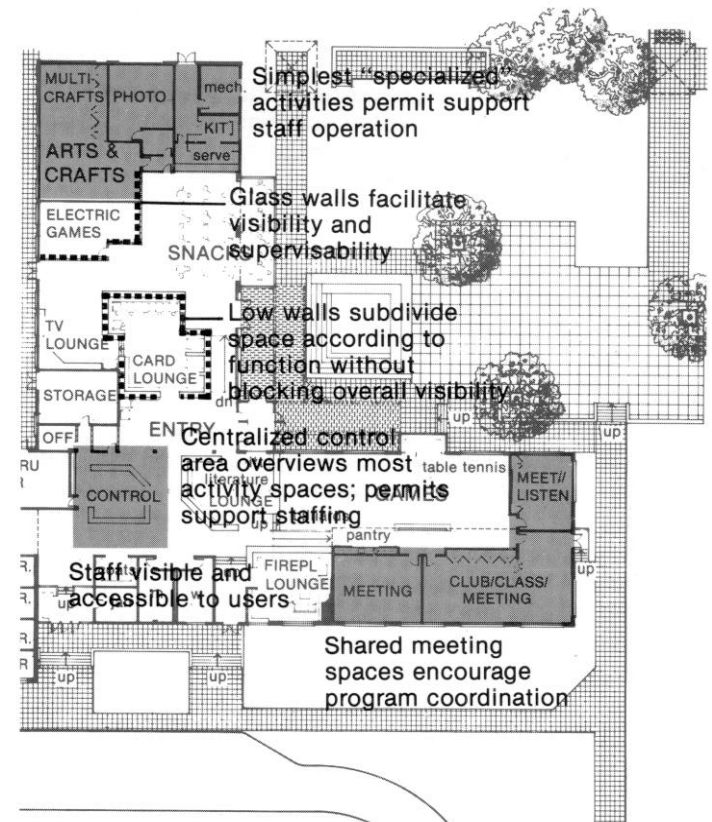


Figure 5 - 3 Staff Efficiency

d. Sense of Community

A strong sense of community contributes greatly to the morale and well-being of the military population and their families, serving to enhance their quality of life. The co-location and consolidation of activities in Community Activity Centers can reinforce this sense of community in several ways.

(1) Concentrate Activities. The level of activity in consolidated centers is inevitably greater than that in separate facilities, due to the multiple activities occurring at once, and to the greater numbers of users in the same place. This concentration of activity provides a focus for the community and creates a sense of liveliness at the center, a place of major importance for the whole post, or for the individual troop billeting or family housing area (see figure 5 - 4). The opportunity for encounter and interaction between different groups of the community members, and among users and staff with varied interests, increases the dialogue among community members

and ultimately improves the sense of community and morale of the entire post.

(2) Establish an Image. The consolidation of MSA and other community activities, in one central place, makes it possible to establish an image for the facility which is highly visible and recognizable as the place where community activities occur. The design should strive for a sense of identity - an open, attractive image - the users' own place. This image of a place where social, educational and recreational activities are ongoing can help to reinforce the positive feeling of community on the installation.

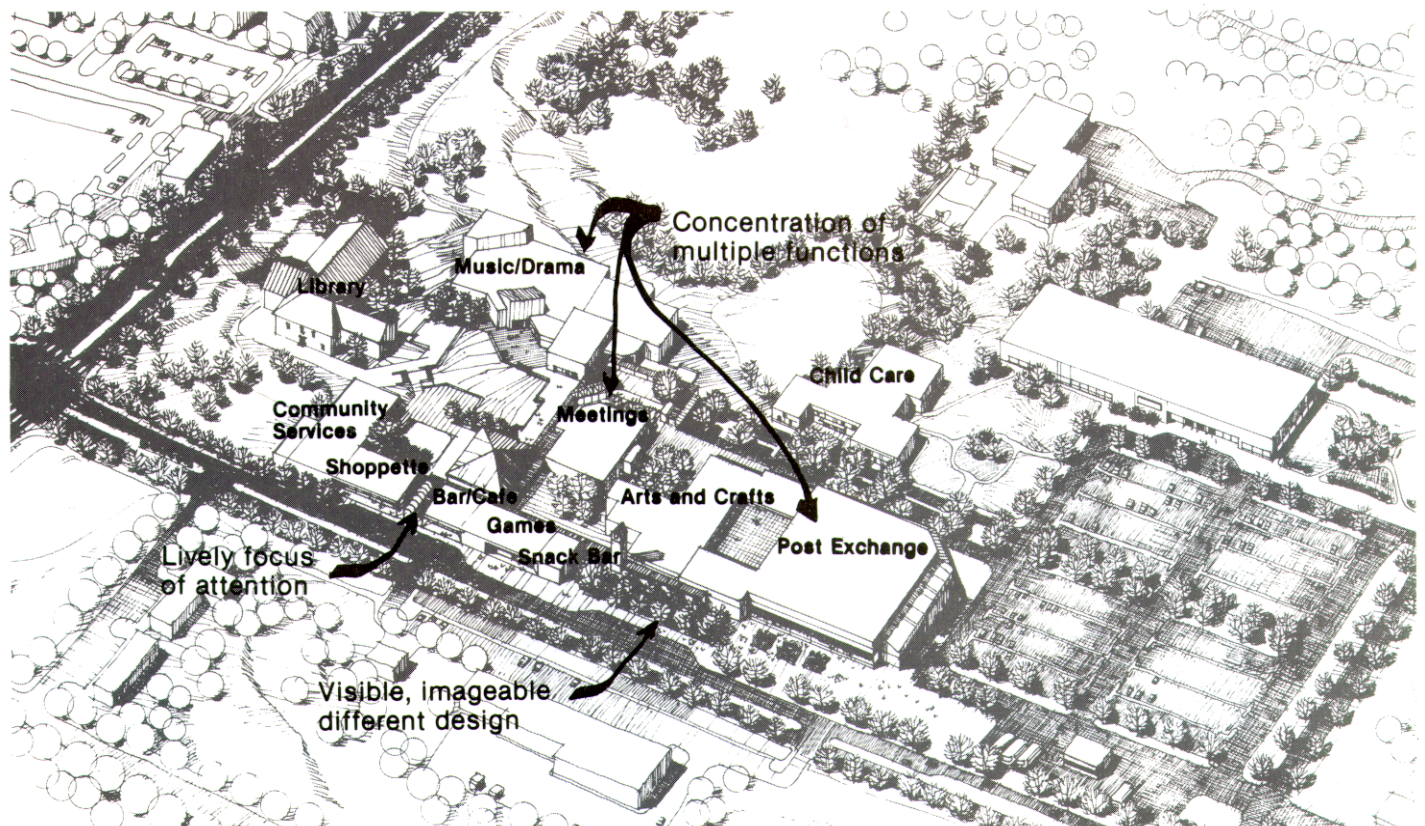


Figure 5 - 4 Activity Concentration

e. Family Support

(1) Design for Entire Family. Providing community facilities for military families, and supporting the sense of family, is a basic goal of the Community Activity Center concept. Consolidating a number of activities into one family center means that an entire family can use the center at one time, by providing something for everyone. This is very important considering the logistical and transportation problems which families experience with children of different ages and interests. Centers which provide child care as well as activities for parents and older children serve families who would not otherwise be able to participate in these activities.

Providing facilities for families is primarily an issue of programming and scheduling the use of the spaces. Some considerations relating to use by families affect the design of the center. Lounges, toilets, support areas and all furnishings and equipment must be designed to accommodate adults and children of different ages. Child care spaces should be convenient to activity areas likely to be used by parents. Some distinct spaces that can provide the separate “turfs” desired by different age/youth groups are important in family centers, especially in the lounge/recreation areas (see figure 5 – 5).

(2) Support Housing Areas. There are few community support facilities in family housing areas on post. MSA facilities used primarily by troops tend to discourage use by families. Centers designed for families and located in the family housing area will fill a critical need and will be heavily used. They will reinforce the sense of cohesiveness and community in the housing area, by creating an accessible, identifiable focus for the neighborhood. Their image, visibility, and location should be designed to support these goals.

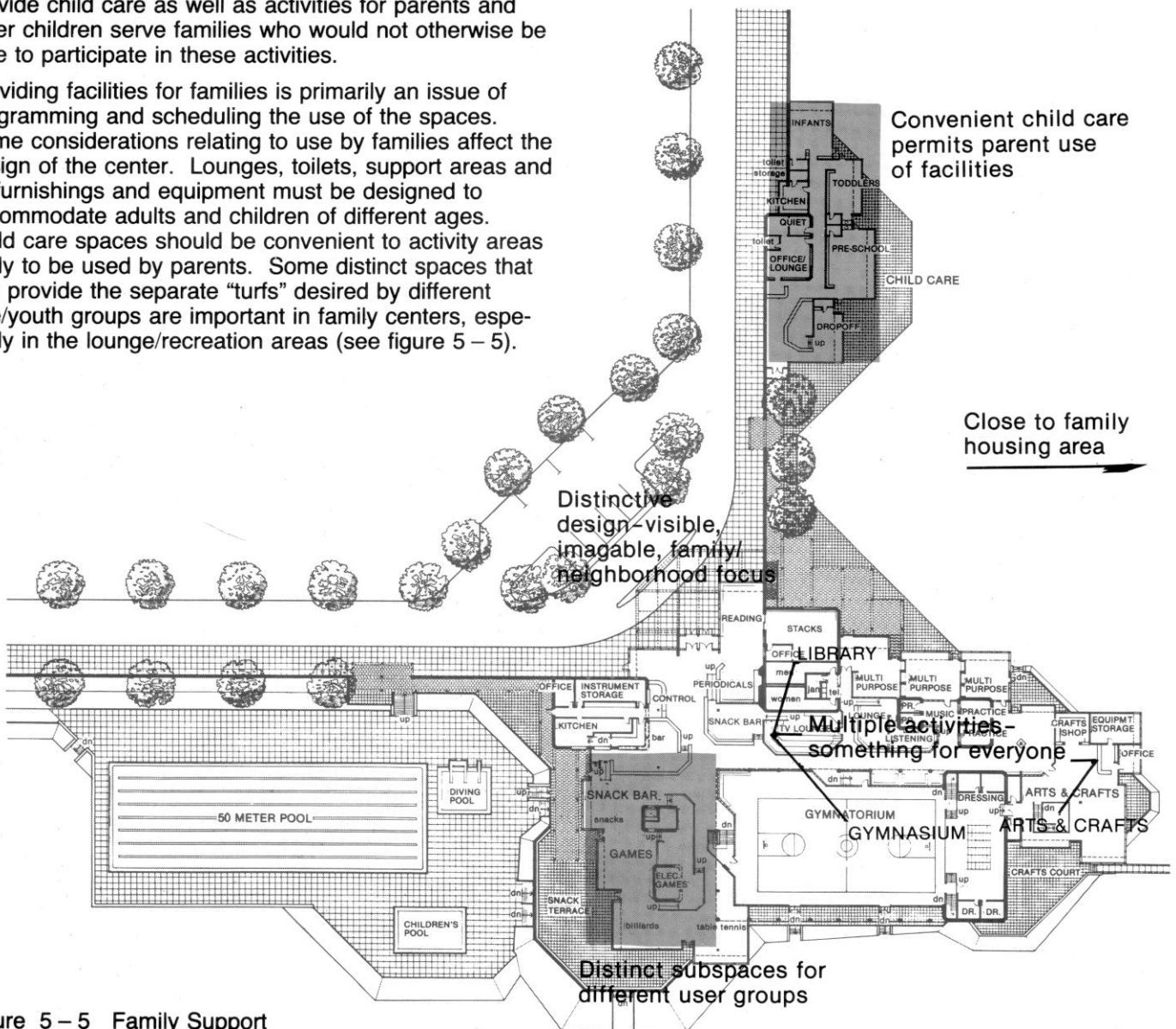


Figure 5 – 5 Family Support

f. Convenience and Choice

(1) Locate Conveniently. Convenience of access and use are most effectively ensured by locating Community Activity Centers near the users they serve, or along the routes to other activities they regularly use. Main Post Centers should be on primary roadways, near central concentrations of post activities. Local Centers should be located in or adjacent to the billeting or housing areas served, or along the most heavily travelled pedestrian routes in and out of the individual residential areas. Design of entrances and circulation paths in and around the centers should relate closely to already-used paths (see example figure 5 - 6).

(2) Encourage User Interest. The variety of activities provided in a consolidated CAC is more likely to attract many users. In separate, specialized facilities which provide only a single activity, people who are unfamiliar with

the activity may be reluctant to visit the facility. When these activities are combined or consolidated with more familiar recreational activities, it is easier for users to make use of the facility and explore new activities. A visually open design that provides views from the outside, as well as between activity spaces, can expose users to new areas of interest.

(3) Provide Options. The consolidation of activities in Community Activity Centers provides a diverse range of choice - from relaxing lounging to active sports, from shopping to cultural activities. This means that users can choose to participate in more than one activity in the center and find satisfaction for their diverse interests. It also means that the visitors' curiosity can be stimulated by exposure to a variety of events.

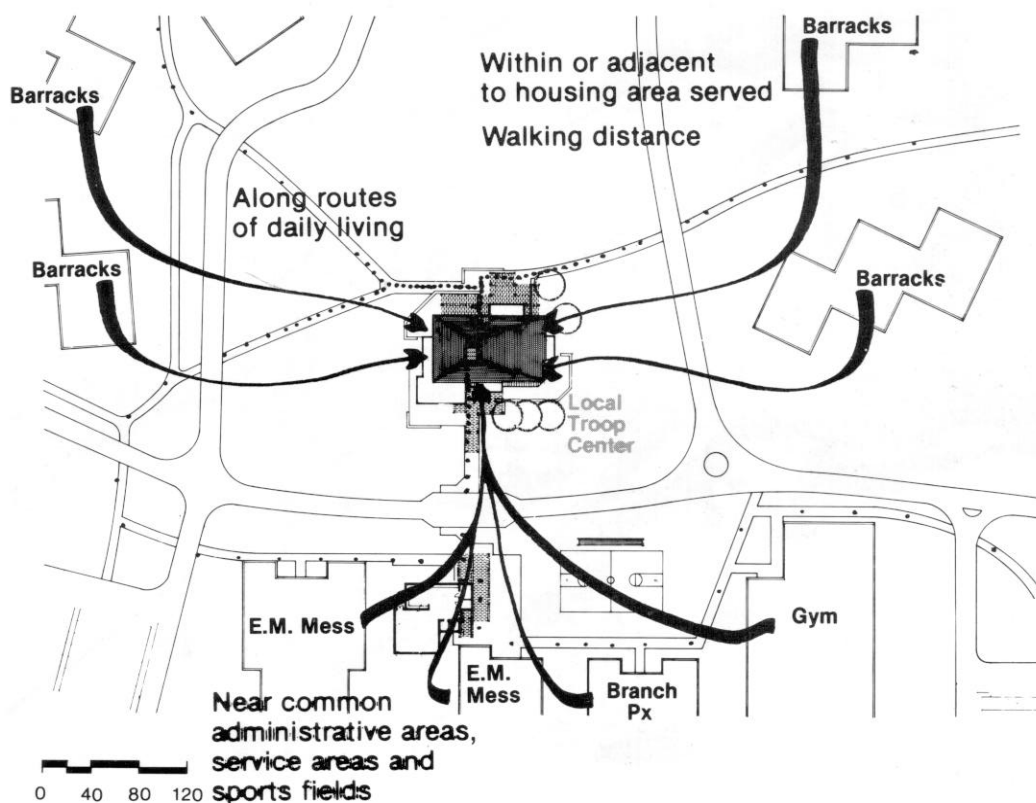


Figure 5 - 6 Convenient Location

g. Design for People

The design of the Community Activity Center should reinforce the principle of service to the community and the individual user. The design itself can reflect this by conveying a non-institutional, welcoming quality to its users.

(1) Create an Identifiable Image. The CAC should have an identifiable architectural image that is different from other buildings on post. It should strive to be attractive and open, revealing the lively, and have leisure-time activities inside. The soldiers, families and other users should be able to identify with the CAC as their place and the center of their community (see figure 5-7).

(2) Express Multiple Elements. The design of the CAC should express the multiplicity of activities among which the user can choose. The various program-areas should be evident in the configuration of the building itself. In this way, even in a large facility, the building can exhibit a comfortable sense of scale that is not overwhelming. Multiple entrances, relating to different function areas, will reinforce this sense of diverse activities and small scale.

(3) Provide a Sense of Privacy. Despite the need for appropriate instructional and protective supervision, the user of a CAC should not have a sense of being watched. Oversight can be provided without intruding on the users with an overbearing sense of control. The design of the control desk should express openness and invitation.

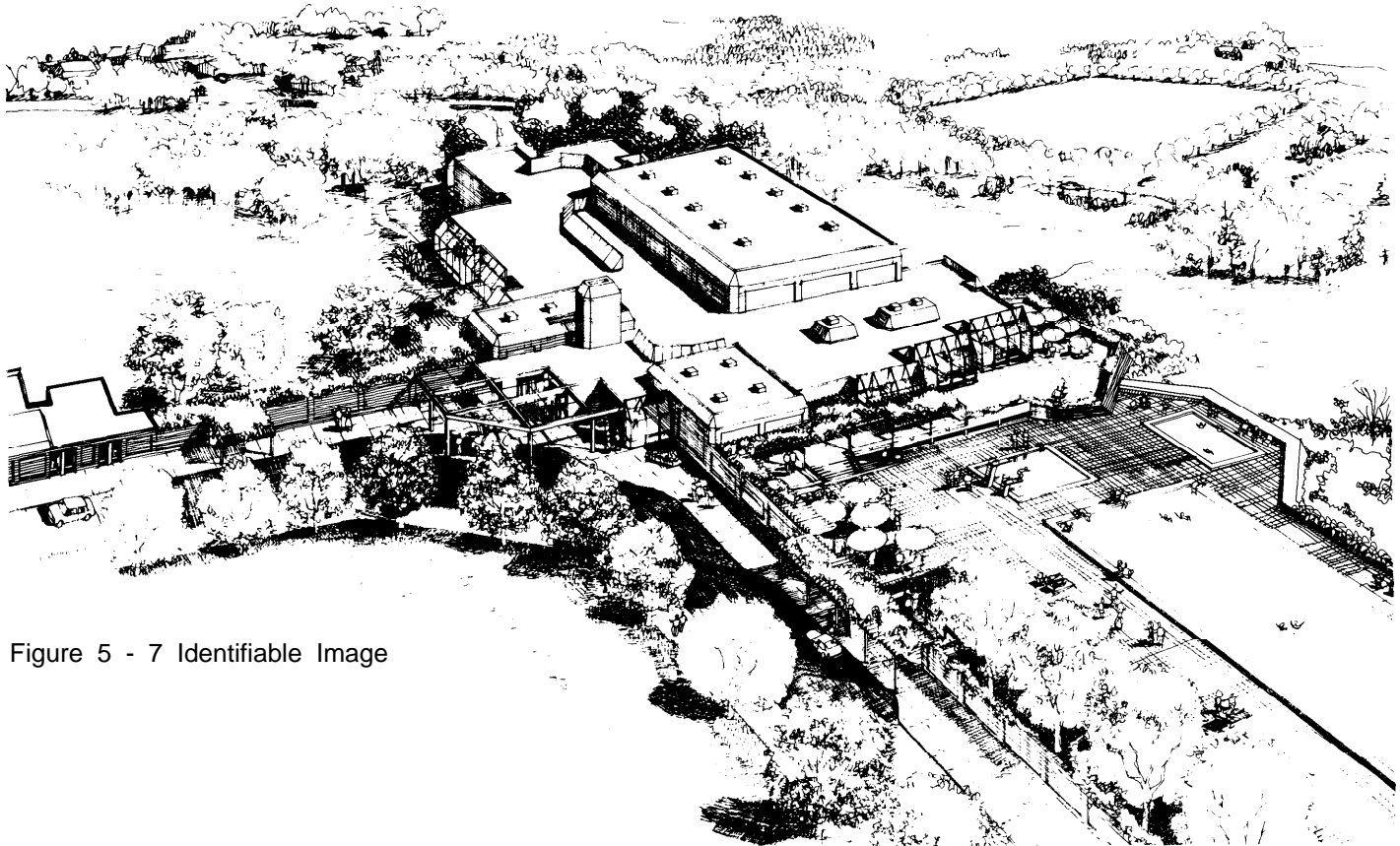
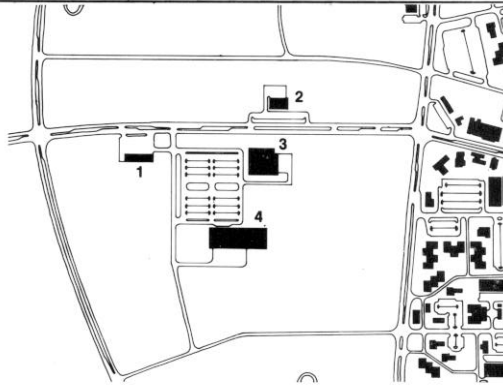


Figure 5 - 7 Identifiable Image

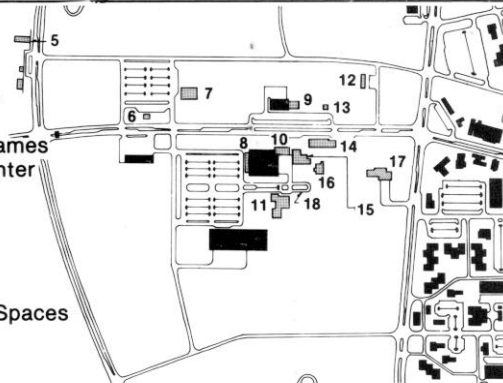
Phase 1

- 1. Gas Station
- 2. Post Office
- 3. PX
- 4. Commissary



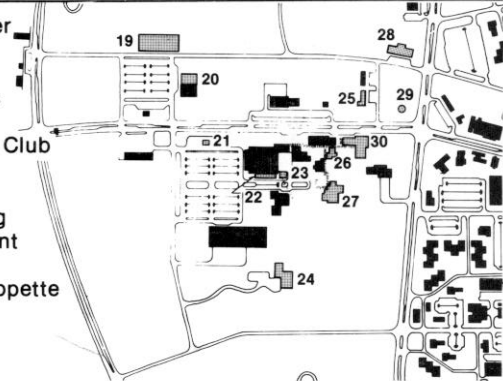
Phase 2

- 5. Central YAC
- 6. Bus Station
- 7. Cinema 1
- 8. Service Stores
- 9. Bank
- 10. Snacks and Games
- 11. Child Care Center
- 12. Guest House
- 13. Laundry
- 14. Bar/Cafe
- 15. Arts & Crafts/ Craft Store
- 16. Multipurpose Spaces
- 17. Library
- 18. Drop-off Loop



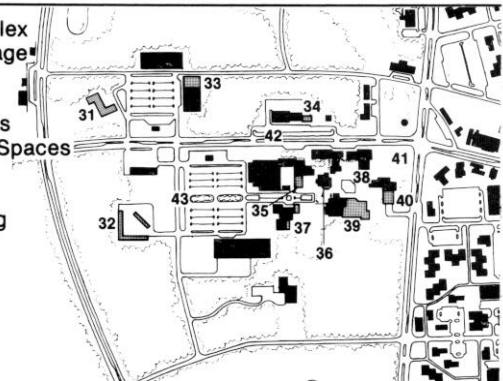
Phase 3

- 19. Bowling Center
- 20. Cinema 2
- 21. Car Wash
- 22. Service Stores
- 23. Thrift Shop
- 24. Family Health Club
- 25. Guest House
- 26. Lounge
- 27. Music Building
- 28. Post Restaurant
- 29. Post Museum
- 30. ACS/AER/Shoppette



Phase 4

- 31. Theater Complex
- 32. Self-Help Garage
- 33. Cinema 3
- 34. Credit Union
- 35. Arts and Crafts
- 36. Multipurpose Spaces
- 37. Child Care
- 38. Amphitheater
- 39. Music Building
- 40. Library
- 41. Town Green
- 42. Main Street
- 43. Mall



h. Phased Development

Some CAC facilities should be designed to be built over time as a sequence of construction projects, thus accommodating available funding, and resulting in a unified complex based on a phased master plan. Whether for a single building or a complex, plans should permit parts to be built at different times and to operate in the interim as workable wholes (see figure 5 - 8). Alternative phasing possibilities should be considered in order to respond to unanticipated conditions.

An architectural master plan of the whole facility complex should be designed from the beginning, to set the pattern of relationships between all elements and guidelines for their design development. The detailed design of each part should respond in form and circulation patterns to the uses of all nearby building elements. Efficient operation, access and staffing must be possible at all stages of partial and final completion. This may require changes in the use of certain spaces as the facility grows, with space built for one purpose and then later modified, or built to accommodate a future stage of demand but partly used in the interim for other functions. Such phased use patterns, and the configurations and temporary construction required to accommodate them, should be understood and designed from the beginning of the project.

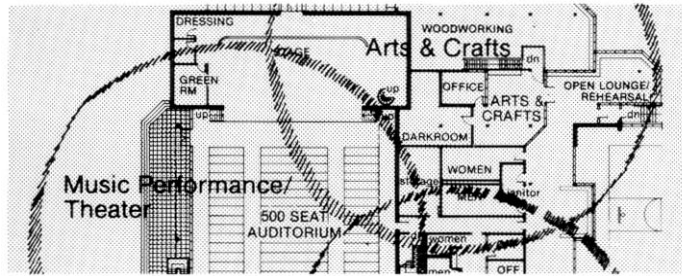
Figure 5 – 8 Phased Development

i. Energy Conservation

The Community Activity Center should be designed to minimize energy consumption. It should take advantage of the applicable considerations of siting, building orientation, landscaping, layout, enclosure, insulation, glazing, passive solar design, wind protection and wall shading, in order to reduce energy consumption and expenditure.

In addition, the CAC is a consolidated facility with component elements that may have different operating schedules, leaving some parts of the building open while others are closed. The mechanical and electrical systems should be designed to permit energy-efficient operation of the whole building or of its parts. This may require zoning of the building and its heating and cooling systems. More than one mechanical system may provide a more flexible and efficient design. The mechanical system alternatives should be compared through life-cycle costing, as well as other building design and system options, for an energy-efficient choice.

The consolidated nature of the CAC requires special consideration of the design of the mechanical and electrical systems. These include the special power demands of ceramic kilns, theatre lighting, electronic audio-visual equipment, the ventilation, exhaust and waste disposal requirements of woodworking, metalworking, painting and other crafts processes, among others. These individual needs and the most flexible and energy-efficient means of meeting them with single or composite systems should be analyzed in the early stages of mechanical and electrical system design.



5 – 3

Design for Consolidated Activities

Design for consolidated activities involves procedures to aid the design of Community Activity Centers. These include a system for analyzing, organizing and relating the various functional spaces of the centers. They address the key issues in CAC design: What does consolidation mean for MSA and community facilities? Which functions are consolidated and which not? What degrees of sharing and relationship apply and where?

a. Accessibility and Supervision

A key goal of consolidation is to encourage sharing of spaces and supportive relationships between functions and to provide more attractive and actively utilized facilities. To best accomplish this, the spaces accommodating the activities should be open and accessible to users as often as possible. The need for supervision sometimes restricts completely free access to the space. The goal of good design for consolidated activities should be to maximize the degree of accessibility and minimize the amount of space not always available for use.

The activities in a CAC require varying degrees of supervision. Some activities, such as table games and casual reading, require little or no supervision. The most specialized functions may require full supervision, typically by program specialists. The swimming pool must be supervised by lifeguards at all times, the woodworking shop requires a crafts specialist whenever it is in use. This need results in controls that limit access when supervision is not available. However, not all aspects of the specialized programs require this high degree of supervision or access control. Many of the supervisory

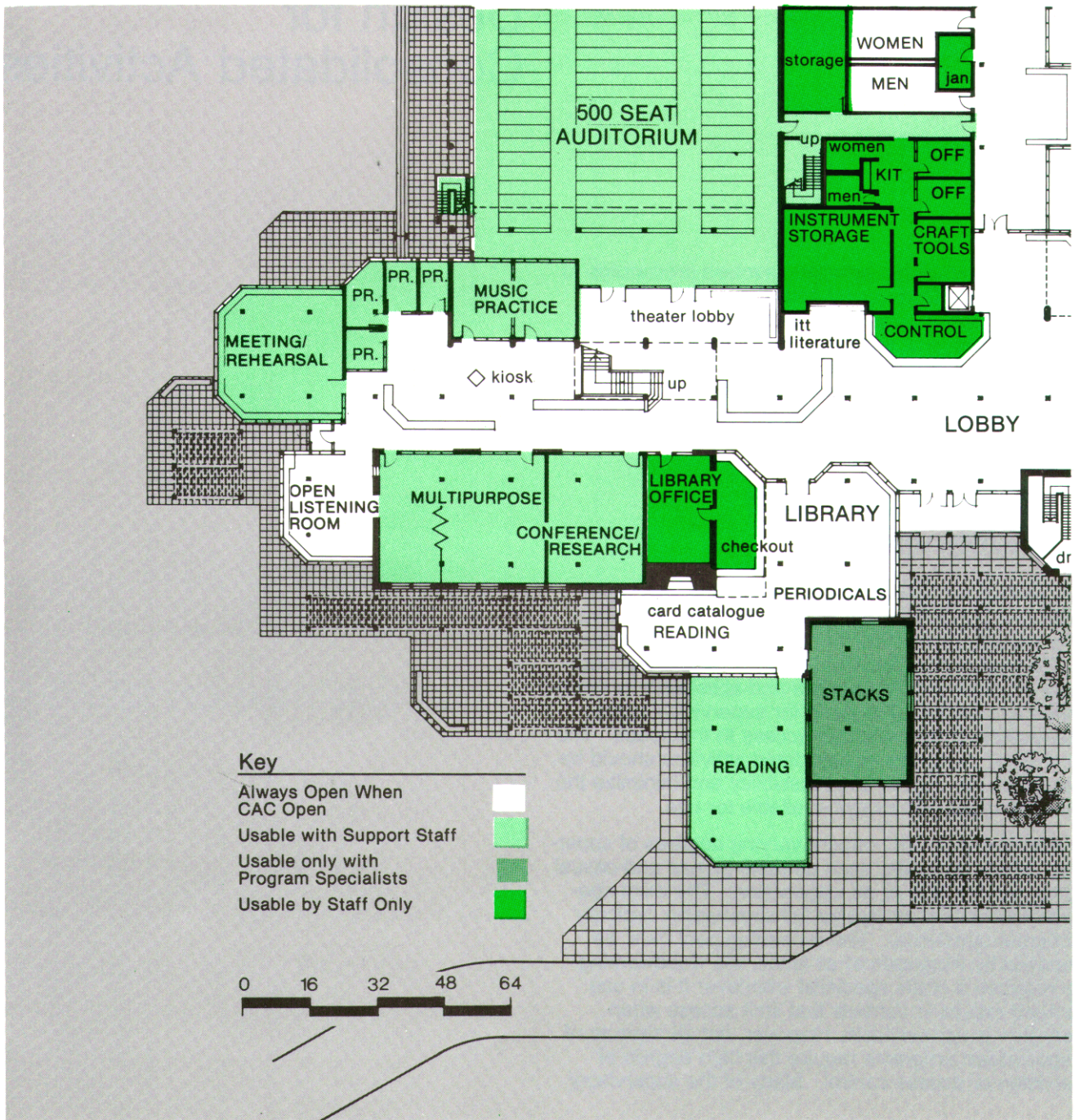


Figure 5 – 9 Design for Consolidated Activities: Zone Definition

roles can be performed by support staff, who are also serving other functions in the center. The various program facilities of the CAC should be designed so that the areas which require stringent supervision and controls are kept to a minimum, while the more flexible and less dangerous areas and support spaces are consolidated with the accessible nonspecialized spaces. The effect is to create a Community Activity Center of mostly open spaces, operated and supervised primarily by support staff, with occasional interruptions of more closed spaces where supervised specialized activities occur.

b. Zoning

Consolidation and openness can be achieved by breaking each function into zones, which define those areas that must be kept separate and supervised - like locked storage or spaces with expensive, technical equipment - and those which can be shared and open - like the reading room/lounge. Design for consolidated activities uses four zones of varying degrees of openness and need for specialist supervision, as illustrated in figure 5 - 9.

(1) Always Open. This zone includes areas open and accessible at all times when the center is open. No program specialist supervision is needed.

(2) Usable With Support Staff. This zone includes areas that are accessible to users without supervision by program specialists. Control of use by support staff, not necessarily within the same space, is sufficient.

(3) Usable Only With Program Specialists. This includes areas which can only be used with the presence and supervision of program specialists.

(4) Staff Only. This zone is for spaces to be used by staff only, never for users.

c. Achieving Design for Consolidated Activities

Design for consolidated activities can be achieved in all types and sizes of Community Activity Centers - Main Post Centers and Local Centers, single buildings and complexes - as illustrated in figures 5 - 10, 5 - 11 and 5 - 12. These illustrations suggest which types of spaces fall in each of the four zones. However, these categorizations are not absolutes. The classification of a function-area will vary from center to center, depending on the program characteristics and design constraints.

The architects, programmers and program staff should use the concept of zones to develop the pattern of openness and accessibility which best fits the local program and needs. In general, designers should strive to maximize accessibility and visibility in order to make an open design fit as many functions as possible. For example, a space can be provided with all glass walls and doors which gives visibility yet acoustic separation, and curtains for periodic visual privacy, unless privacy in this space is always required.

Certain types of functional areas commonly fall into one particular zone. As the illustrative plans show, the social activity areas (lounge, games, television, snacks, and multipurpose meeting spaces) and the support spaces (toilets and circulation) are typically in zone (1), "always open." Music practice rooms, listening rooms, performance halls, and gymnasiums are usually in zone (2), "usable with support staff." Child care, retail commercial outlets, ACS/AER services, snack bar kitchens, general supplies/equipment checkout and sales are commonly found in zone (3), "usable only with program specialists." Offices, locked storage, specialized control and equipment functions are typically in zone (4) "staff only."

Many functional areas will vary in their zone indication depending on size, complexity and the degree of specialization involved. For example, woodworking and photography spaces in the small Local Center (figure 5 - 12) and woodworking and general crafts in the large Local Family Center (figure 5 - 10) are in zone (2) "usable with support staff," because they are of a small and simple enough level of operation to be run without program specialists. However, in the Main Post Center (figure 5 - 11), the photography and woodworking areas are zone (3), "only with program specialists," because they involve more complex, expensive and dangerous equipment and operations, while the simpler ceramics and general crafts areas can be zone (2), under support staff supervision.

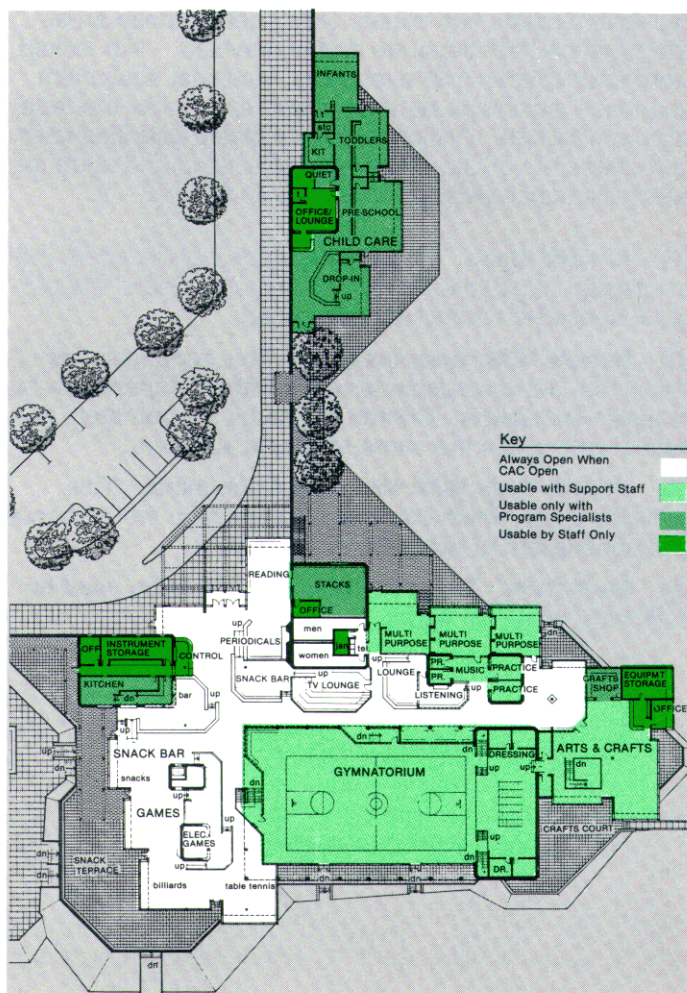


Figure 5 – 10 Design for Consolidated Activities:
Large Local Center

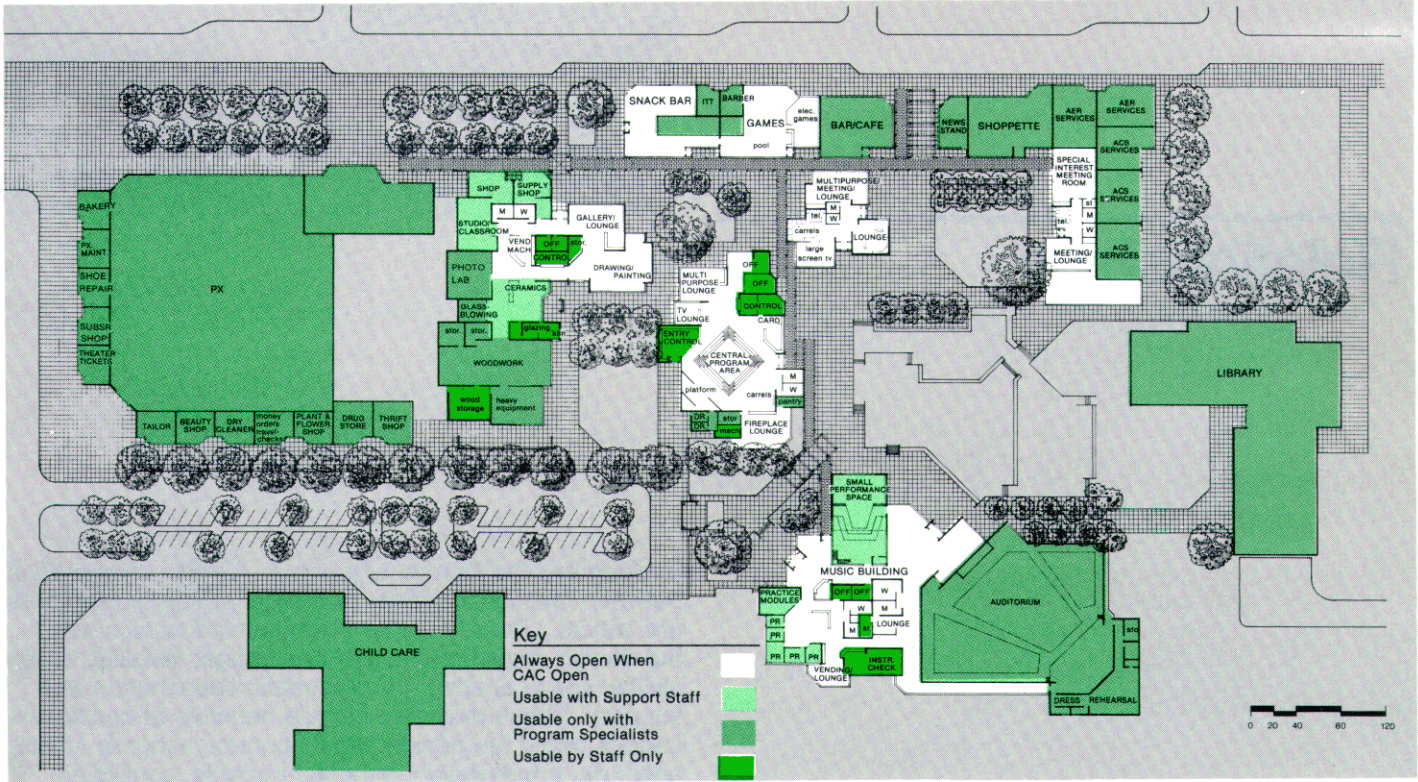


Figure 5 – 11 Design for Consolidated Activities: Main Post Center

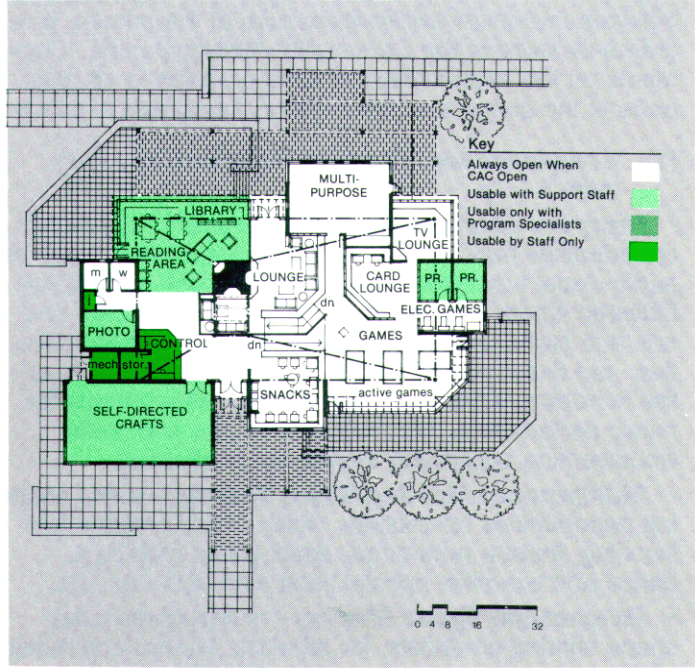
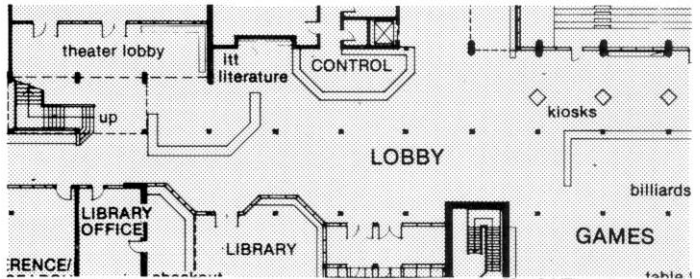


Figure 5 – 12 Design for Consolidated Activities: Small Local Center

5 - 4



Relationships

In designing the Community Activity Center, relationships between functional spaces of the consolidated programs are critical. These may be positive relationships which the design should reflect and encourage; visibility, accessibility, space sharing, programmatic coordination and support. These may also include negative or conflict situations which the design should control; acoustic interference, dirt transmission, exposed hazards, conflicting crowd movement. The following summarize generalized relationship considerations to be applied as appropriate to each CAC design.

a. Specific Program-to-Program Relationships

Tables 5 - 1 and 5 - 2 indicate significant relationships between individual functional spaces of the primary programs included in the Community Activity Center. Comments on the relationships of each program to all other parts of the center are presented in paragraph b, below.

(1) Complementary Program Relationships (see table 5 - 1):

- **Program Coordination/Direct Support** - significant opportunities for coordinated program operation, such as audio-visual functions and specialized book collections between library and music or theatre, or child care and arts and crafts jointly developing children's crafts activities, and direct program support relationships, such as the recreation area snack bar serving refreshments for music performance intermissions, or arts and crafts woodworking supporting theatre set production.
- **Multipurpose Meeting Room Sharing** - space sharing opportunities for classes, clubs, music practice and listening, theatre rehearsals, small group meetings, dance and exercise, special child care activities, etc.
- **Gymnasium Space Sharing** - multipurpose/large space sharing potentials, for athletics, theatre and music performances, dances, banquets, entertainment programs and other events.

Table 5 - 1 Program-to-Program Relationships: Complementary

	Child Care	Bowling	Gymnasium/ Swimming	Social Activities				Arts & Crafts	Theatre	Music
				Large Events	Small Groups	Snacks/ ITT	Lounge/ Games			
Library	P,M		P		P,M		P	P	P,M	P,M
Music	P		G,S	P,S,G	M,S	P,S	S	S	P,S,M	
Theatre	P		G	G	M	P,S	P,S	P,S		
Arts & Crafts	P		S		M,S	P,S	S			
Social Activities	Lounge/ Games	P,V	S,V			P,S				
	Snacks/ ITT	P,V	V							
	Small Group	M	M,S							
	Large Events		G							
Gymnasium/ Swimming										
Bowling										

Key
 P = Program coordination potential, or direct support relationship.
 M = Multi-purpose meeting room sharing potential.
 G = Gym/auditorium space sharing potential.
 S = Consolidated operation of supply and sales of equipment and tickets.
 V = Visibility relationship between program spaces.

- **Supply and Sales Consolidation** - potential space, operations and staffing consolidation of equipment supply, check-out and sales for various functions -such as crafts materials, musical instruments, games and sports equipment, as well as ticket booking and sales, for ITT, music and theatre performances, and other events.
- **Visibility** - clear visibility between program-areas when required, such as lounge/snack eating area to gymnasium activities, and general visibility from lobby/control and circulation to most activity spaces.

Table 5 - 2 Program-to-Program Relationships: Conflicts

	Child Care	Bowling	Gymnasium/ Swimming	Social Activities				Arts & Crafts	Theatre	Music
				Large Events	Small Groups	Snacks/ ITT	Lounge/ Games			
Library	N	N	N,W	N		W	N	N,D	N	N
Music	N	N	N,C,W	N,C	N	C	N	N,D	N,C	
Theatre	N	N	N,C,W	N,C	N	C	N	N,D		
Arts & Crafts	N,D	N,D	N,D,W	N	N	N	N			
Social Activities	Lounge/ Games	N	N	N	N					
	Snacks/ ITT	N	N	N,C	N					
	Small Groups	N	N	N,W	N					
	Large Events	N	N	N,C,W						
Gymnasium/ Swimming	N,W	N,W								
Bowling	N									

Key
 N = Noise intrusion, one way or the other.
 D = Dirt pollution.
 W = Unwanted Wetness or food spillage.
 C = User crowd traffic conflict potential.

(2) Conflicting Program Relationships (see table 5 - 2):

- **Noise** - acoustic intrusions requiring isolation and sound-proofing, noise reduction, or distant spacing.
- **Dirt** - dust, wastes, toxic or noxious products, primarily from various crafts activities like woodwork, ceramics and painting which should not be allowed to affect other program-areas. This may be controlled by space isolation, dust collectors and separately-zoned ventilation/exhaust systems.
- **Wetness/Food** - water, wet activities and foods, from swimming pool and snack bar, should be prevented from entering particularly sensitive spaces such as library and musical instrument areas.
- **Heavy User Traffic** - potentially conflicting heavy user traffic from multiple, simultaneous large-group events, such as theatre performances, spectator sports and dances, require appropriate design of circulation capacity, separate entrances, or time scheduling.

b. General Program Relationship Considerations

The following summarizes general relationship considerations between each primary program-area and other functional spaces in the Community Activity Center (see figure 5 - 13 for illustration of major issues).

(1) **Library.** The library in a consolidated facility can serve an important program coordination and support role relative to almost every other activity in the Center. It can serve as a central source of reference documents,

periodicals and audio-visual materials dedicated to each specific activity. With increasing use of computers and audio-visual materials as integral parts of activity programs - for reference, activity recording, programmed learning, entertainment - the potential exists for a shared facility for this expensive equipment, for use by library, sports, crafts, music, theatre and any other program use that this availability will stimulate. Multipurpose use of meeting rooms and combination lounge/reading/periodicals space are other sharing potentials for the library.

Isolation from distracting noise elsewhere in the center is a factor for the library relative to all the other functional areas, including circulation. A reasonably sound-isolated enclosure should suffice. Time-of-operation patterns

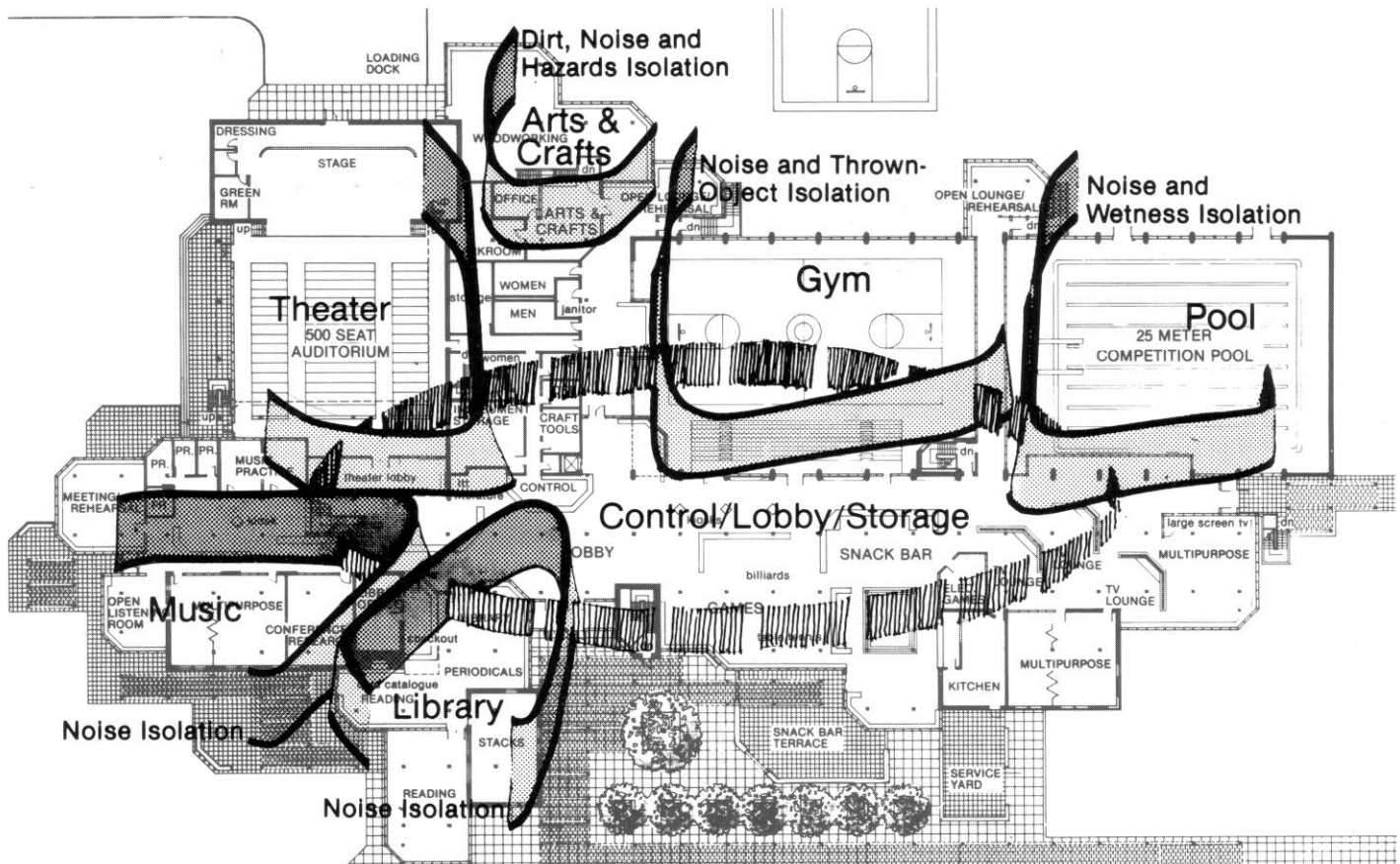


Figure 5 – 13 General Program Relationship Considerations: Local Troop Center

may also conflict, the library commonly being open longer hours than the programmed functions, an issue that functional separability of zoned areas of the CAC should handle. Electric supply issues should also be carefully addressed, to be adequate for potential electronics and computer equipment.

(2) Music and Theatre. Music and theatre programs may share multipurpose space, which may also be used for other functions - films, training, lectures. To permit shared performance space to work, particularly in a multipurpose gym situation, the space must be able to be dedicated to music and theatre not only for the performance times, but for the whole period of preparation, rehearsals and stage set-up between performances. The woodworking/theatre-set shop, and performance equipment storage, can also be successfully combined, but require adequate volume and possible dedication of space strictly for set building and storage for periods of time. Lobby space for performances should be shared with general CAC lobby/circulation space, but must be designed to accommodate music and theatre box office/ticket needs, display boards, and refreshments/snacks, all of which can be consolidated with other CAC program uses. Even dinner theatre may take advantage of consolidated support in a shared multipurpose performance space, using the snack bar kitchen for its catered food-warming requirements, although this will require more elaborate facilities and different equipment than typical snack bar kitchens provide.

Acoustical considerations are a general concern for performance, music practice and listening spaces, requiring sound isolation from concurrent noise-generating activities. Electrical needs must be addressed: heavy power requirements for stage lighting; separate circuits for carbon-arc lights so they do not disrupt sound systems, computers, televisions and other functions elsewhere in the CAC; flexible track-lighting in multipurpose performance/gymnasiums, easily stored or enclosed when not in use. Heavy user traffic could also be a problem with large attendance. Circulation and entrances must be designed to accommodate the crowd without disrupting other activities or conflicting with other large group events.

(3) Arts and Crafts. Arts and crafts has a number of potentials for program coordination and space sharing: with library, music and theatre as mentioned above; in centralized materials storage, supply, and sales; in special programs for youth activities and for preschoolers in child care; for classes in multipurpose meeting rooms; and for art exhibits and crafts display to all CAC users.

But many conflict potentials require special treatment: pollution from particulate and noxious fumes require separate ventilation and exhaust systems, dust collectors, and waste disposal; noise-generating activities like wood-working must be sound-isolated; and hazardous equipment areas must have controlled access and necessary supervision.

(4) Auto Crafts. While auto crafts facilities are not likely to be consolidated in a CAC, unless it is a large complex of buildings, it is possible to program auto crafts into or nearby the center. However, inclusion of auto crafts presents problems such as: the large work-space, parking, and equipment storage space requirements; potential visual offensiveness to users of other functions; and noxious exhaust and special drainage needs

(5) Social Activities. Social activities - lounging, games, snacks, ITT, small and large group events - have a close complementary relationship to all the other CAC functions. Their spaces should, in general, be readily accessible and visible to all CAC areas. Since many of these spaces can be integrated with the circulation and general-purpose areas of the CAC, they can intermix closely with all the specialized program areas. Specific sharing potentials exist in the use of multipurpose meeting spaces for small group activities and multipurpose gymnasiums for large events, centralized storage and supply of games and other equipment, and coordination of ITT with information and ticket sales components of other programs.

(6) Active Sports. Gymnasiums, swimming pools, handball/racquetball courts and other sports facilities are important components of Community Activity Centers as magnets for users and activators of center life. Physically, their relationship to other spaces should be one of high visibility - for spectator interest and use attraction - especially from lounge, snack, games and circulation areas. Enclosure and large glass walls will generally be required, to isolate potential noise and wetness conflicts, and to block thrown objects like basketballs. Sharing potentials occur in multipurpose use of gymnasiums and meeting/exercise rooms, and in equipment supply and ticket sales centralization.

(7) Bowling. Bowling facilities may be included in Community Activity Centers, most likely in the larger ones, especially Main Post Centers. Their relationship to the other functions is much the same as the active sports spaces, with an emphasis on design for noise isolation. The shared use of the snack bar and electronic games rooms serving the entire CAC can be an important feature of consolidation with regard to bowling facilities.

(8) Dependent Youth Activities. Youth activities will either have separate, specialized facilities for the youth, or will be integrated programmatically in other spaces within a Community Activity Center. In general, the youth prefer to have some spaces for the exclusive use of their own age group. This is particularly valid for a separate "Teen Center." Where their activities are consolidated in a Main Post Center or Local Family Center, the youth will partake of activities in all the CAC program areas. This means that design of all the spaces must reflect the size, activity preference and hazard considerations of use by youth, ages 6 to 19. Physical subdivision and time scheduling should be made feasible where age-group or dependent/military separation is advisable. The provision of multiple activity spaces - for instance, several lounge or games areas - is important to permit the youth to have some "territory" of their own, which avoids conflict with other user groups.

(9) Child Development. The child development facility functions separately from the rest of the CAC, although its conveniently accessible location is important for parents using the center. It needs to be separate for reasons of programmatic identity, independent access and reception, noise isolation, and different scale of spaces. This suggests design of either a nearby detached structure for child development (as in figure 5 - 5), or a distinctly separate wing of the center, with form and scale defined by its own program determinants. Since child development programs may provide after-school and vacation activities for children 6 - to - 12 years old, space for these should be included in the main CAC facility, and coordinated with youth activities such as reading, music and crafts.

6

Illustrative Designs

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6 - 1

Using This Chapter

This chapter presents six case studies based on on-site design applications at Army installations. Planning the Community Framework and designing one or more Community Activity Centers as part of each post's community system are presented for each case. The illustrative designs represent a broad range of types, sizes and service purposes of Community Activity Centers. For each installation, the community service needs and program are discussed, the masterplan considered and a post-wide Community Framework plan is developed. For selected, prototypical Community Activity Centers in the plan, detailed programs and design solutions are presented and analyzed.

The illustrative plans and designs in this chapter are to be used by Morale Support Activities staff, Facility Engineers, other involved service agencies, user groups, District Engineers, and architects contracted for CAC design, as examples of the application of the guidance in this Design Guide. The plans and designs are based on modified existing facilities programs and sites, but the considerations and solutions represent realistic applications of the procedures, principles and considerations for determining project requirements, developing a community service and facilities system, locating facilities, and developing Community Activity Center programs and design solutions.

These illustrative designs are not intended to be used as definitive designs and plans, but rather as a guide in solving the needs of specific local situations and programs. Local programs, service patterns, activities included in each center, existing facilities, and site conditions make it impossible for any plan or design for a Community Activity Center to be definitive and applicable in multiple situations. Each illustrative example has been designed for a specific local program, site and topography, and is not intended to be used or site-adapted for other locations. Each installation should develop its own plans and designs responding to local programs and needs, which may vary considerably from these examples.

The final section of this chapter presents designs for Community Activity Centers for remote sites and small populations. These include prototypical building programs and suggested designs for three sizes of Community Activity Centers for sites with populations of 250 and under.

6 - 2



Fort Plains: Main Post Center plus Local Centers

a. Post Situation and Population

(1) Surrounding Context. Fort Plains is located in a rural area in the Southern United States. It is more than one hundred miles from the nearest sizable city, and several hundred miles from any metropolitan area. The terrain is flat to hilly, heavily forested, and has many lakes and streams.

The nearest communities are two small towns approximately ten miles from the main entrance to the post. Along the state highway leading to the towns is strip development including bars, restaurants, fast food operations, some entertainment, hotel and retail facilities. These off-post services on the roadside strip, and in the small-town centers, are quite small compared to the needs of the large post population.

(2) Post Mission and Population. The major mission of Fort Plains is to house a mechanized infantry division. The post population has recently grown rapidly, and the projected military strength for planning purposes is 25,000. Current military strength is 17,000 and the effective community population is 47,000. Slightly over half of the military personnel are married with a total of 21,000 dependent children, almost 13,000 of school age. Roughly 85% of the military strength are enlisted personnel, and 7% are women.

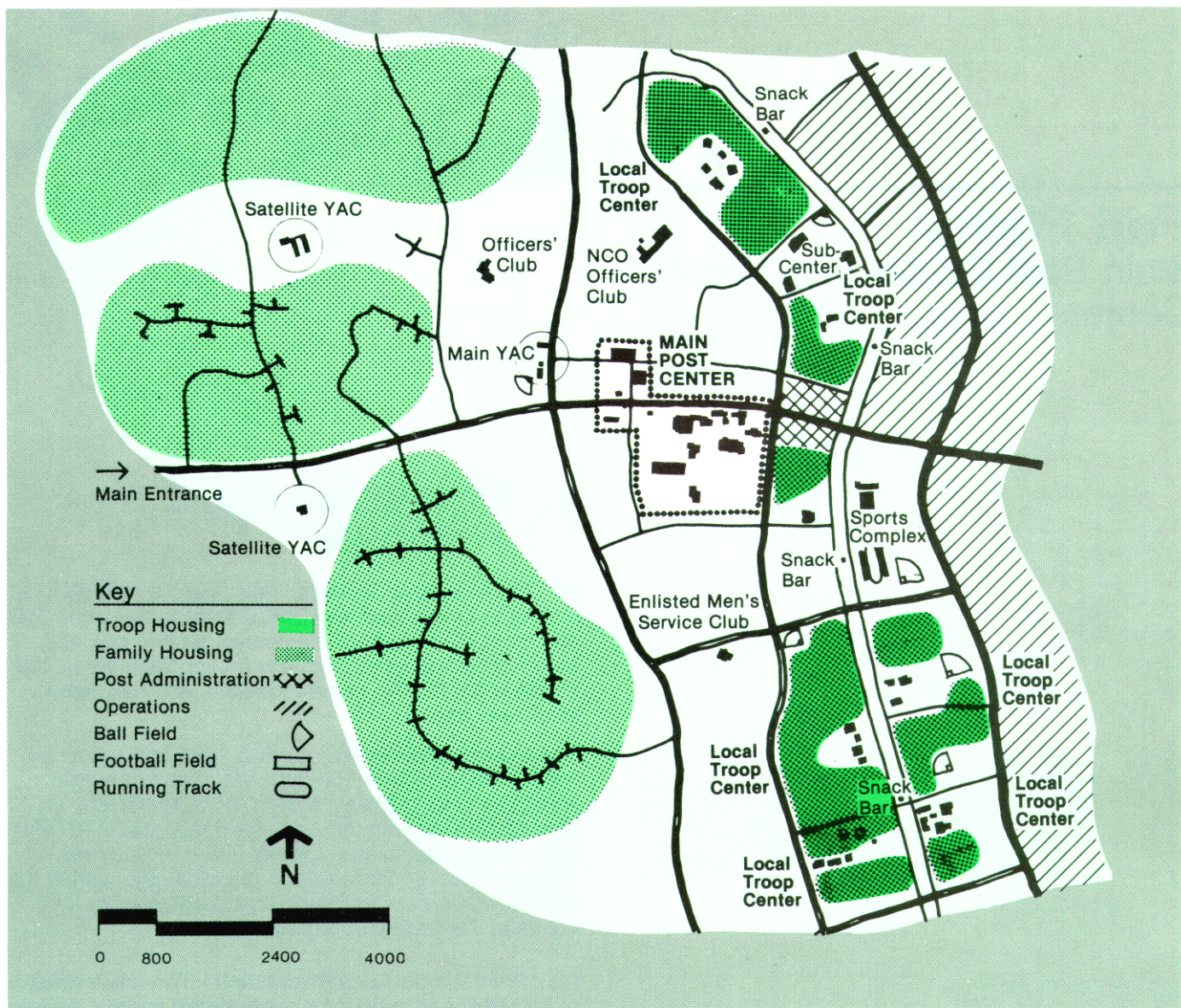


Figure 6 – 1 Fort Plains: Community Framework Plan

(3) Geography. The topography of the post's cantonment area is gently rolling hills and valleys, with development mostly on the high ground. The post is functionally organized into developments running north-south, with a motorpool/ light industrial zone to the east, then a zone of troop housing, a green buffer strip (including golf courses), and the family housing area to the west (see the diagrammatic masterplan, figure 6 - 1). A major east-west road runs roughly across the center of the post, from the main post entrance in the west to the airfield east of the motorpool area. The administrative center of the post is along this road in the troop housing zone. The troop housing is organized into brigade-size housing clusters.

b. Existing Programs and Facilities

Because of the recent rapid growth in Fort Plains; the provision of community services lags behind the need, and major improvement and development are required. While a full range of services is presently provided, they are mostly undersized for the population and often poorly accommodated and located. New construction for post operations and housing has progressed ahead of the community facilities. This gap is particularly acute in the family housing area.

The Morale Support Activities office has very successful programs in sports, music and drama, though in inadequate facilities, and moderately patronized arts and crafts, library, and youth activities programs housed in makeshift, inconvenient older buildings. A large new recreation center, convenient to some of the troop housing, is heavily used. Major new facilities for the post's main exchange and commissary are centrally located and easily accessible (see existing conditions, figure 6 - 2); but there are no other retail or food service facilities available on-post. New clubs for officers, NCO's and enlisted men have been completed and are well-attended. Child care and other Army Community Services programs function at a minimal level in poor and remote facilities.

The community services available off-post are limited. But the bars, fast food restaurants and some recreational facilities (roller skating, bowling) are heavily used by the soldiers, partly because of the inadequate provision on post, and partly out of a desire to temporarily get away from the military environment. Opportunities for hunting, fishing and camping are abundant in the area, and are utilized actively by part of the post population.

c. Community Framework

The Community Framework for Fort Plains (figure 6 - 1) reflects all the basic principles discussed in Chapter 3: consolidation, continuous development, variety of personal choice, and responsiveness to many factors. The plan consolidates most community services into Community Activity Centers, with the exception of a few existing, specialized facilities. This opportunity is available because of the limited number of existing community services and quality facilities. It considers phased, sequential construction of the planned facilities, and their implications for programming and design. It combines many activity choices into attractive and convenient central and local CAC's, including not only Morale Support Activities, but post exchange and other retail functions, child development, other Army Community Services, and leisure and community activities.

(1) Main Post and Local Centers Concept. Fort Plains is a large post. Its total population of 47,000 is that of a small city, with a broad spectrum of residents - many single troops, families, and a wide range of ages and ranks. Development is spread out over a large geographical area, it is several miles from one end of the cantonment area to the other. The number of people and great distances involved, suggest multiple service locations for certain types of functions to be closer to the individual users. The post is also clearly clustered into development areas defining separate categories of users, such as units of single troops, family housing, and administrative offices, creating logical service territories for differentiated and dispersed services.

The great geographical spread, and the lack of dominant, organizing topographic features, suggests the need for a focus or center. There is little now in the physical character of the post to give a sense of overall post community which the individual can identify with. There are some features which start to provide a focus: the central east-west road leading in from the main entrance; the post administrative center, where most of the post population goes at some time, located along this major road or main street; and the newly completed post exchange and commissary complex, located just off this main street. These provide a good location for developing an effective Main Post Center.

There is also a great need for new community facilities development, because of the limited existing MSA and other community facilities, and the scarcity of off-post services. This presents a prime opportunity for coordinated development of the needed community facilities, under a comprehensive service concept.

The Community Framework responds to this situation with a hierarchy of CAC's and some specialized facilities (see figure 6 - 1), as follows:

- **Main Post Center** - a large CAC complex for all the major, one-of-a-kind, post-wide community services and facilities, central to the whole post, visible and easily accessible along the post's main street (the post's "downtown").
- **Local Troop Centers** - small CAC facilities, located in each troop unit billeting cluster of 6 to 10 barracks, providing the single enlisted men with their own places for recreation and other services, and within walking distance, since many of the troops do not have cars.
- **Main Sports Complex** - major, post-wide sports facilities, including a physical fitness center, indoor swimming pool, stadium, and baseball field with grandstand.
- **Branch Sports Sub-Centers** - outdoor sports complexes (baseball, softball, swimming), sometimes including gymnasiums, shared by clusters of 12 to 30 barracks, with some already existing.
- **Main Dependent Youth Activity Center** - a specialized youth facility, centrally located to the family housing areas and adjacent to youth outdoor playing fields; providing the youth with their own, separate, identifiably different place (see DG 1110-3-138, Design Guide for Dependent Youth Activity Centers, Large Main DYAC, for applicable space program and illustrative design).
- **Satellite Dependent Youth Activity Centers** - two satellite facilities, located near the on-post elementary and junior high schools for more local, neighborhood youth services and activities (see DG 1110-3-138, Neighborhood DYAC, for program and illustrative design).

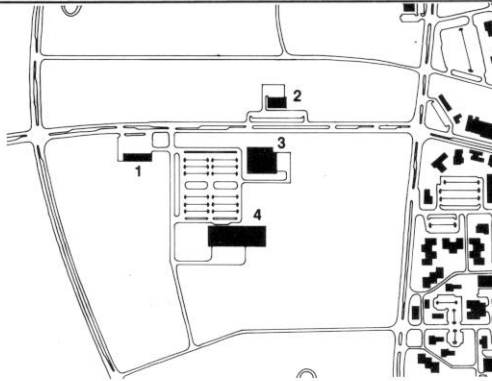
(2) Concentration and Mix of Activities. The Main Post and Local Troop Centers concentrate many activities and services in consolidated facilities, to create an intensity of activity to attract the individual users and provide them with a variety of options. They combine, particularly in the Main Post Center, all types of retail and service functions to provide variety and alternatives for the individual, exposure to new activities, and options to appeal to all types of users in the diverse post-wide population.

This consolidation means a close mixing of different service provision agencies. In the Main Post Center, MSA functions are located next to the post exchange, commissary, movie theatre, bank, guest housing and post administrative center. Traditional MSA facility types are separated into component functional areas to create better mixing of activities, and to avoid having one area identified solely with one institution (see figures 6 - 2 and 6 - 4). This mix requires coordinated planning as well as facility and program operation by the agencies involved.

(3) Continuous Growth. This Community Framework is designed to accommodate the need for continuous development discussed in Chapter 3. The functional elements and buildings of the community facilities are designed to be built in phases while using existing facilities in the interim periods. Alternative scenarios of phased development are considered, as in the example for the Main Post Center shown in figure 6 - 2, and projections are made of the patterns of program use at each stage of partial completion. Each individual functional area may be constructed over several stages, and some facilities may have different interim uses before all functions are finally or fully accommodated. However, at all stages, the facilities work as an operable community activity center.

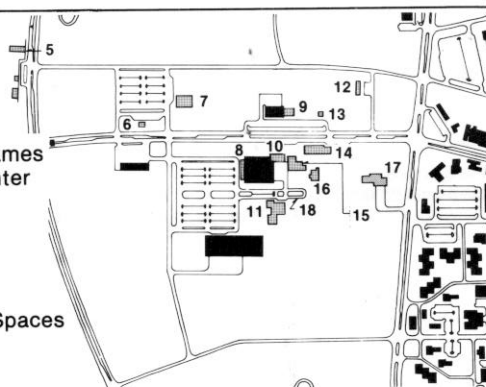
Phase 1

- 1. Gas Station
- 2. Post Office
- 3. PX
- 4. Commissary



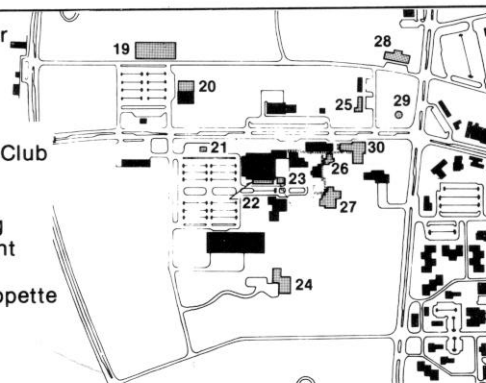
Phase 2

- 5. Central YAC
- 6. Bus Station
- 7. Cinema 1
- 8. Service Stores
- 9. Bank
- 10. Snacks and Games
- 11. Child Care Center
- 12. Guest House
- 13. Laundry
- 14. Bar/Cafe
- 15. Arts & Crafts/
Craft Store
- 16. Multipurpose Spaces
- 17. Library
- 18. Drop-off Loop



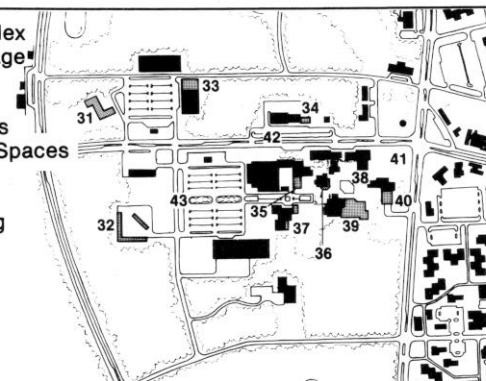
Phase 3

- 19. Bowling Center
- 20. Cinema 2
- 21. Car Wash
- 22. Service Stores
- 23. Thrift Shop
- 24. Family Health Club
- 25. Guest House
- 26. Lounge
- 27. Music Building
- 28. Post Restaurant
- 29. Post Museum
- 30. ACS/AER/Shoppette



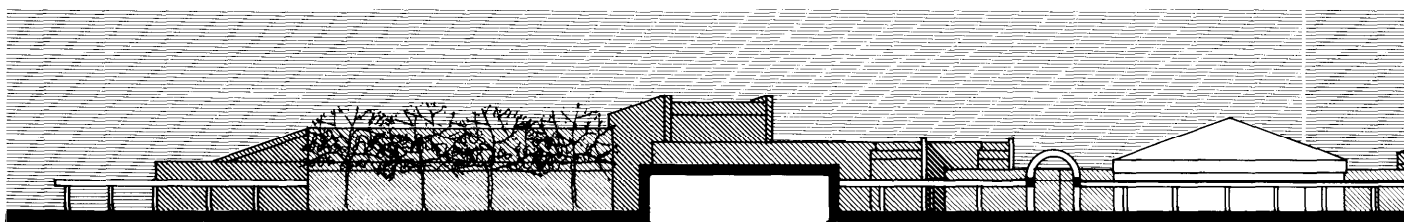
Phase 4

- 31. Theater Complex
- 32. Self-Help Garage
- 33. Cinema 3
- 34. Credit Union
- 35. Arts and Crafts
- 36. Multipurpose Spaces
- 37. Child Care
- 38. Amphitheater
- 39. Music Building
- 40. Library
- 41. Town Green
- 42. Main Street
- 43. Mall



(4) Normal Community Growth. Underlying all the above aspects of the Community Framework approach for Fort Plains is the broad concept of modeling the community development on normal patterns of civilian community growth. The Community Activity Centers and other community facilities are sited to form activity centers which are like typical centers of commerce and activity in civilian communities, such as the main street, village green, shopping mall, or neighborhood center. The proposed facilities follow good civilian models of physical organization, of mix and variety of activities located together, and of the appropriate variety of scales for different functional spaces. In this way, the center will not be dominated by large monolithic institutional facilities and can provide appropriate settings for a wide range of activities.

Figure 6 – 2 Fort Plains: Main Post Center-Phasing



d. Main Post Center

(1) Program. The Main Post Center for Fort Plains is intended to serve as the post's "downtown" - the location of the major community facilities and services which serve the entire post. It serves all the various user groups of the post community, and should provide the scale and intensity of activity, and the multiplicity and variety of functions and environments, to attract individuals of all groups. It provides the focus for the post's sense of community.

The functional program for the Main Post Center includes all the major commercial, morale support and other community service activities for the post. The only major omission is physical fitness, because a main sports complex is already programmed elsewhere on the post. Table 6 - 1 lists all the functions included, organized by phase of development (illustrated in figure 6 - 2). Table 6 - 2 provides a detailed space program for the functions in the core area of the Main Post Center (illustrated in figure 6 - 4). While the facilities in the Main Post Center serve the entire post, there are also other facilities on post offering some of the same categories of activities, for example, the crafts spaces in the Local Centers. The square footages indicated should be understood as only a part of the post-wide total.

(2) Design Solution. The design solution for the Main Post Center is a large complex of structures, closely related and connected with arcades (see figures 6 - 2, 6 - 3, 6 - 4 and 6 - 5). Because each of the functions serve the entire post (see program, table 6 - 2), many have to be accommodated in separate, specialized buildings. However, where possible, activities even from different programs and service agencies share the same structures, for example, one building in the complex houses a bar/cafe, pool/games, barber and ITT (see figure 6 - 4).

More generally, different functions are intermixed. For example, arts and crafts is adjacent to the post exchange retail stores, and the music and lounge area is adjacent to the multipurpose recreation spaces. The convenient closeness yields potential sharing of many general use spaces - such as meeting rooms and refreshments - even if they are not in the same building. It also allows one facility to act as a magnet for the others, attracting clients who might otherwise pass by.

The Main Post Center is located on Fort Plains' main street, making use of the existing main exchange and new commissary, and connecting these to the post administrative center (see figures 6 - 1, 6 - 2). This

Table 6 - 1 Main Post Center: Functions Program

Function	Phase of Development			
	Existing	Phase 1	Phase 2	Phase 3
Main Exchange	•			
Soda Fountain		•		
PX Service Stores & Retail Outlets		•	•	
Commissary	•			
Shoppette			•	
Newstand			•	
Thrift Shop			•	
Barber		•		
Laundry		•		
Arts & Crafts:				
-Ceramics/Pottery		•		
-Drawing, Painting, Glass, Photography		•		
-Woodworking				•
-Gallery		•		
-Crafts Store/Supply Shop		•		
Social Activities:				
-Pool Hall/Electronic Games		•		
-Snack Bar		•		
-Multipurpose Meeting Spaces		•		•
-Lounges		•	•	•
Main Post Library		•		•
Bowling Center			•	
Music Center			•	
Auditorium				•
Drama Center/Theatre Complex				•
Outdoor Amphitheatre				•
Child Care		•		•
Family Health Club			•	
Community and Emergency Services			•	
Movie Theatres		•	•	•
Restaurant			•	
Bar		•		
Guest Housing		•	•	
Post Office	•			
Bank		•		
Post Museum			•	
Credit Union				•
Gas Station	•			
Car Wash			•	
Self-Help Auto Repair				•
Bus Station		•		



Table 6 – 2 Fort Plains Main Post Center: Space Program (Partial)

Function-Space	Area (Gross Square Feet)	Function-Space	Area (Gross Square Feet)
Social Activities	44,230	Music/Performance	25,120
Large Group Activities	5330	Performance	16,000
• Central Program Area	4200	• Auditorium	12,000
• Platform	880	• Small Space	4000
• Pantry	250	Practice and Listening	3100
Small Group Activities	19,590	• Practice Rooms	1800
• Active Games	4700	• Listening	100
• Television Lounge	1000	• Instrument Checkout	1200
• Table Games	2000	Support	6020
• Open Multipurpose	3020	• Offices & Storage	800
• Enclosed Multipurpose	4510	• Lounges	1620
• Telephone Lounge	600	• Toilets	1600
• Carrels	1510	• Backstage Preparation	2000
• Special Interest	2250	Arts and Crafts	20,650
Administration	2500	General	8260
• Offices	1600	• Pottery & Ceramics	1600
• Information, Tour & Travel (ITT)	500	• Glassblowing	600
• Control Center	400	• Drawing & Painting	1760
Refreshment	14,320	• Jewelry & Art Metal	1200
• Snack Bar & Kitchen	4720	• Weaving & Textiles	1700
• Amusement Center	9600	• Sculpture & 3D Design	1400
Support	2490	Other	12,390
• Maintenance	540	• Photography	2060
• Toilets	1950	• Woodwork & Repair	6530
Library	22,970	• Crafts Supply Shop	1000
Primary Use	17,650	• Crafts Store	1200
• Card Catalogue	750	• Support	1600
• Reference	2210	Child Care	19,390
• Periodicals	640	Primary Indoor Activities	14,460
• Children's Collection	3800	Support	4930
• Stacks	5200	• Administration	650
• Reading & Study	4850	• Special Child Services	370
• Typing & Listening Booths	200	• Staff Lounge	560
Support	5320	• Toilets/Diapering	860
• Entrance and Lobby	470	• Food Preparation	610
• Control	600	• Laundry	190
• Librarians	300	• Storage	1500
• Extension Collection	400	• Maintenance	190
• Technical Services	1600	Miscellaneous Retail	9,100
• Shipping & Receiving	300	Newstand	1300
• Public Toilets	550	Shoppette	4000
• Staff Lounge	500	Bar	3300
• Janitor	100	Barbershop	500
• Bookmobile Garage	500		

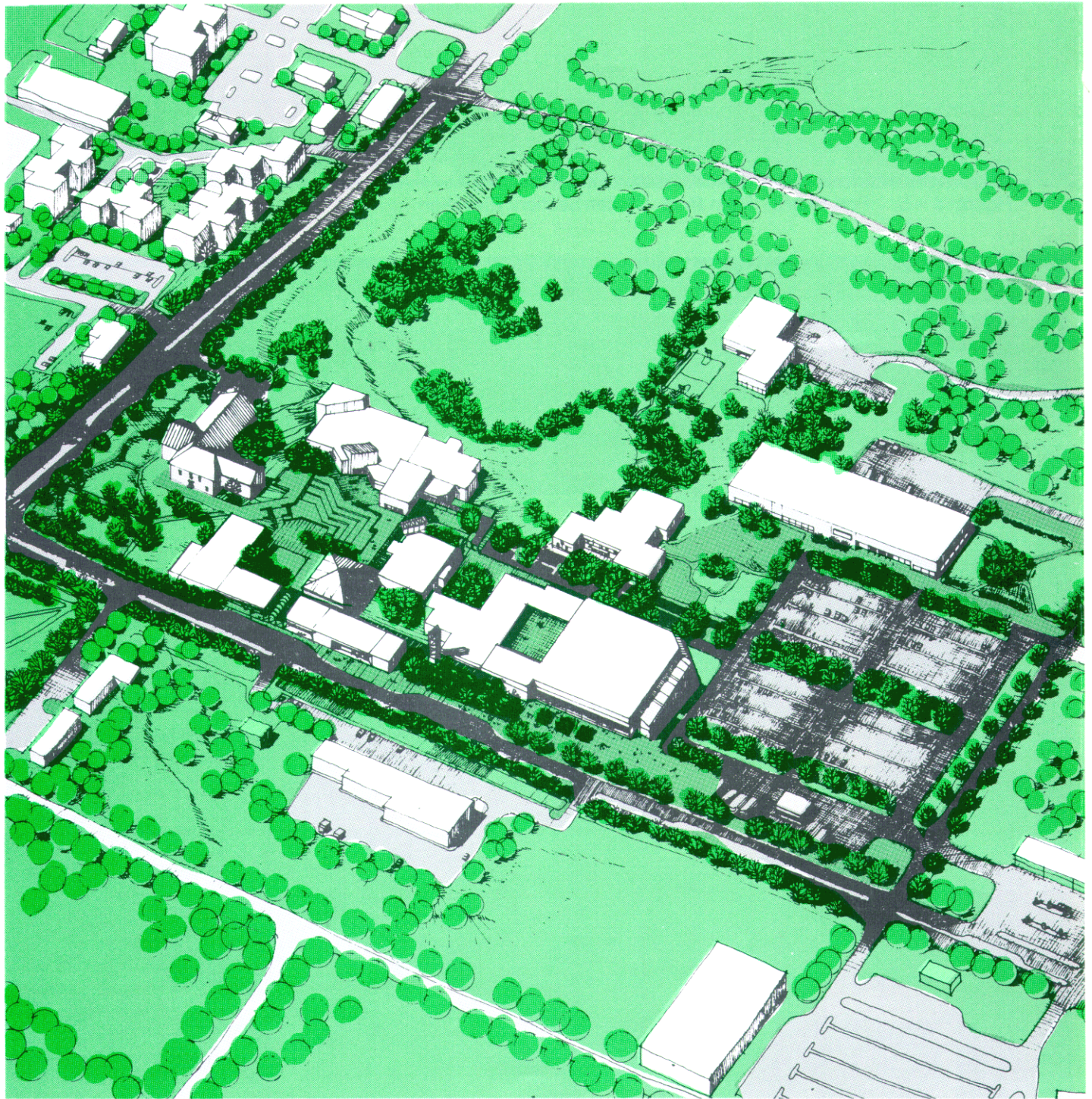


Figure 6 – 3 Perspective

Fort Plains
Main Post Center

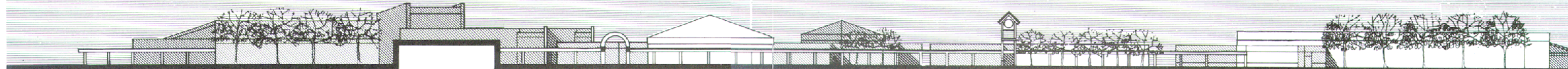


Figure 6 – 5 Fort Plains: Main Post Center-Section/ Elevation

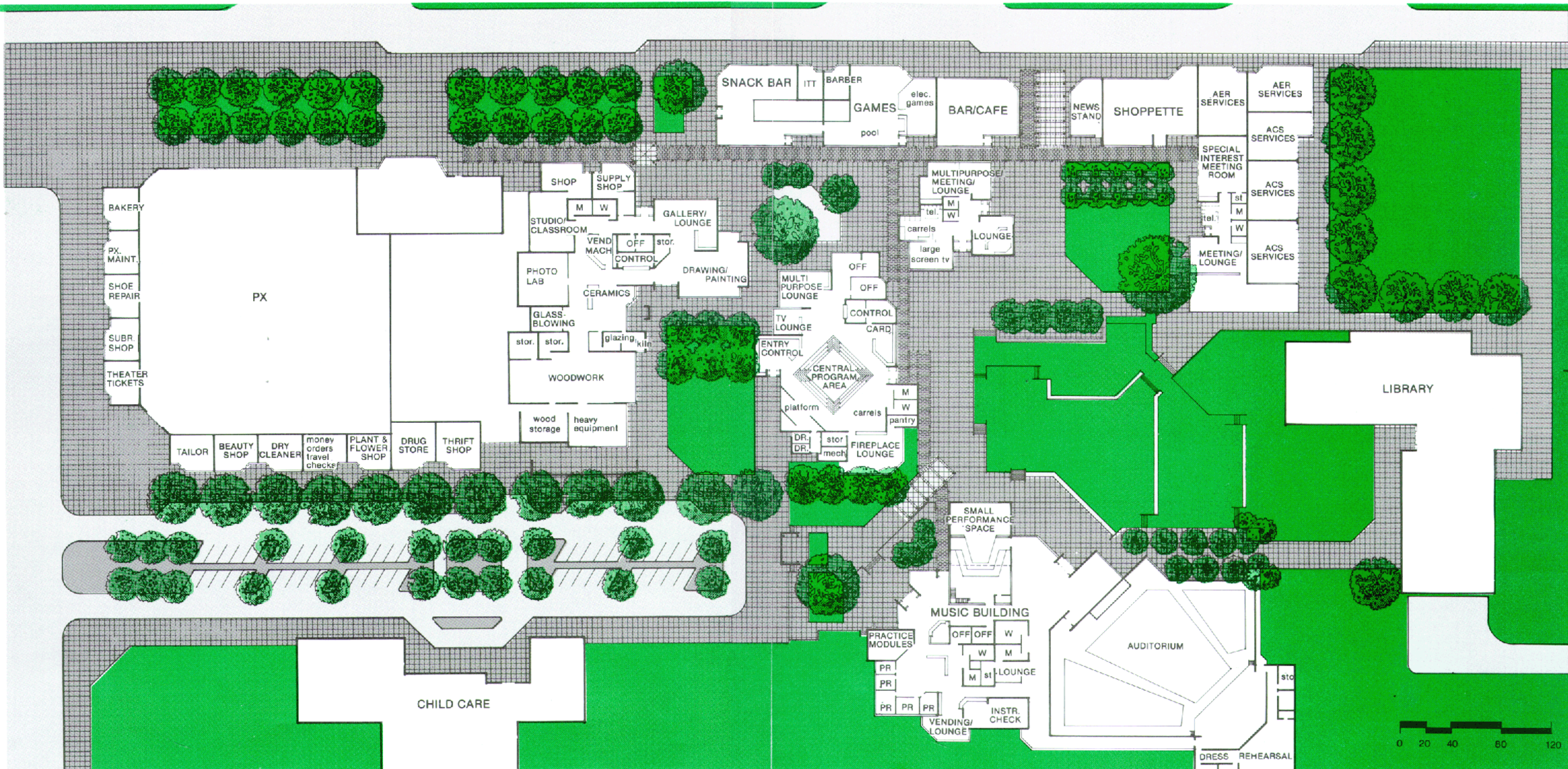


Figure 6 – 4 Fort Plains: Main Post Center-Partial Plan

location is central to the post, readily accessible and highly visible. It is along common daily activity paths for all population groups on post. By concentrating major commercial, community service and leisure activities at this central location, the Main Post Center can effectively serve as the focus for the sense of community for all.

The design of the Main Post Center reinforces this purpose, the image presents (see perspective, figure 6 - 3, and section/elevation, figure 6 - 5) a distinctive community focus for the post. It is a significant architectural statement, different in appearance than the typical post buildings. It is composed of a connected series of visible, individual elements that are not dominated by any one institutional component. It is open, identifiable and attractive.

The openness is evident in the functional layout of the plan (see figure 6 - 4). Many entrances and pathways through the Center invite free access and casual visits and use. Glass walls are prevalent, exposing the range of activities offered to passersby heading to other programs, or just using the landscaped and arcaded outdoor spaces as a place to spend time and see friends. Many spaces for casual, drop-in activities, such as lounges, games rooms, snack bars, and outdoor amphitheatres, are spread throughout the complex. The user is presented with an extremely varied mix of functions which can appeal to a wide range of people.

(3) Building Organization. The organizing design concept of the Main Post Center is a combination of three urban design patterns drawn from civilian community life: the main street, the shopping mall, and the town green (see figure 6 - 4).

The functions placed along the street frontage to create a main street character are interesting, high-attraction retail, food and service activities. They are accessible directly from the street curb-side parking and drop-off. On one side, adjacent to the pedestrian shopping mall, are the soda fountain, crafts store and supply shop (which is the feature of arts and crafts with the widest appeal), snack bar, barber shop, travel/ITT, pool room, bar, newstand, shoppette and entrances to the mall. On the opposite side of the main street, provided with small off-street parking and drop-off areas, are a laundromat, credit union, bank, post office and, a little further on, the bus station, movie theatres, bowling center and drama center, forming a "night-time" entertainment mall around its own parking area.

Adjacent to the main street frontage on the south, an active pedestrian retail and service mall connects the post exchange/commissary complex with the post administrative center. The most appealing elements are placed in prominent positions to act as diverse attractions. Some of the morale support program clusters are separated and individual areas mixed in with other activities. The functions along this pedestrian mall include the florist, beauty shop, other small exchange retail operations, the thrift shop, arts and crafts, central recreation program area, snack bar, barber shop, travel/ITT, pool

room and bar, lounge/activities spaces, television lounge, club meeting rooms, and outdoor amphitheatre. At the edge of this mall are large facilities for child care, music center, and main library - all of which face out onto the open green space to the south.

The pedestrian mall between these facilities is designed as a series of interconnected outdoor court spaces, one of which includes the amphitheatre. Many entrances lead into, and out of, this center. The facilities, some in continuous structures, some separate, are connected by arcades for architectural coherence and shade. This outdoor pedestrian mall, with shaded pathways, is appropriate to the local southeastern climate of the post. Major parking is provided at the major retail end of the center, outside the post exchange and drop-off to the child care facility and music center.

The Town Green is the more formal, less commercialized end of this Main Post Center complex. On its front, are the quieter formal functions which may require partial seclusion from the activity of the mall and main street. This end of the center faces directly to the existing post administrative center. Facing the green are the main post library, Army community services, placement and emergency services, the post guest house and restaurant.

(4) Phasing. The Main Post Center is designed for phased growth, as is inevitable for such a major complex in a continuous development process. The center is composed of buildings that can be built independently in successive phases of construction (see figure 6 - 2). From the outset, the new construction adds onto and infills between the existing activity centers. Some of the new facilities are additions directly to existing structures, as the soda fountain built onto the post exchange, others are detached by adjacent, and related with landscaping and arcades. This sequence represents one possible scenario, but the Community Framework permits other phasings and patterns of development.

The development phasing is designed to form the three organizing urban design patterns from the beginning. Already in the first phase, the library begins to form the town green near the post administrative center; the recreation, arts and crafts, and child care facilities develop the mall concept with the exchange and commissary; and the recreation, refreshment and retail functions begin a connecting main street. In the second phase, the patterns are extended, including completion of almost all the town green facilities, and the completion of retail and service facilities on main street and the mall, thus forming the pedestrian courtyard spaces. In the third phase, the last one illustrated, new buildings continue to form the spaces and intensify the activity paths, and existing buildings are enlarged to accommodate a larger population.



Figure 6 - 6 Fort Plains: Local Troop Center- Elevation

e. Local Troop Center

(1) Program. The Local Troop Center for Fort Plains is programmed to provide immediate recreation, other morale support and community services to the unattached troops of a brigade-size billeting cluster - 6 to 10 barracks housing 2,500 to 3,500 enlisted personnel. It is intended to serve unit-oriented functions as well as individual activities in the soldiers' immediate environment. The functions and spaces to be included are indicated in table 6 - 3.

In many of the troop housing clusters some of these facilities already exist: the enlisted men's closed mess, a gymnasium, possibly a branch exchange, chapel, basketball and other outdoor playing courts. Local recreation, music and crafts areas were not provided in any existing facilities. According to the proposed phasing, local troop centers are planned first for the brigade cluster farthest from the Main Post Center, then in the cluster next farthest, and so on. This arrangement reflects the importance of the Local Centers as supplements to the Main Post Center functions.

(2) Design Solution. The billeting area for which the local troop center (see figure 6 - 7) is designed has an existing gymnasium, basketball court, branch exchange, and two enlisted men's messes. The design recommendation is for a new consolidated facility that accommodates social activities, branch library, music and crafts, as well as a local laundry with attached lounge, built as an addition to one of the enlisted men's mess buildings.

The local troop center is located at the heart of the barracks complex, close to the existing service facilities. It is within walking distance for its users, sited along the main routes used daily by the troops, between the barracks and the messes. The location is designed to reinforce the local neighborhood focus.

Table 6 - 3 Fort Plains Local Troop Center: Space Program

Function-Space	Area (Gross Square Feet)	
Social Activities		3,520
Small Group Activities		2,570
• Active and Electronic Games	910	
• Table Games	310	
• Television Lounge	280	
• Open Multipurpose Lounge	530	
• Enclosed Multipurpose	540	
Administration		400
• Control Center	400	
Refreshment		550
• Snack Bar, with Vending	550	
Arts and Crafts		1,500
Photography	300	
Self-directed Crafts	1200	
Music		240
Practice Rooms	240	
Instrument Checkout	(in control)	
Library/Reading Area		960
Reading, Periodicals and Stacks	960	
General Support		400
Off ice/Maintenance	100	
Toilets	200	
General Storage	100	
Total		6,620
Related Functions in the Local Complex		
Gymnasium		
Basketball Court		
Enlisted Men's Closed Mess		
Branch Exchange		
Laundry and Lounge		

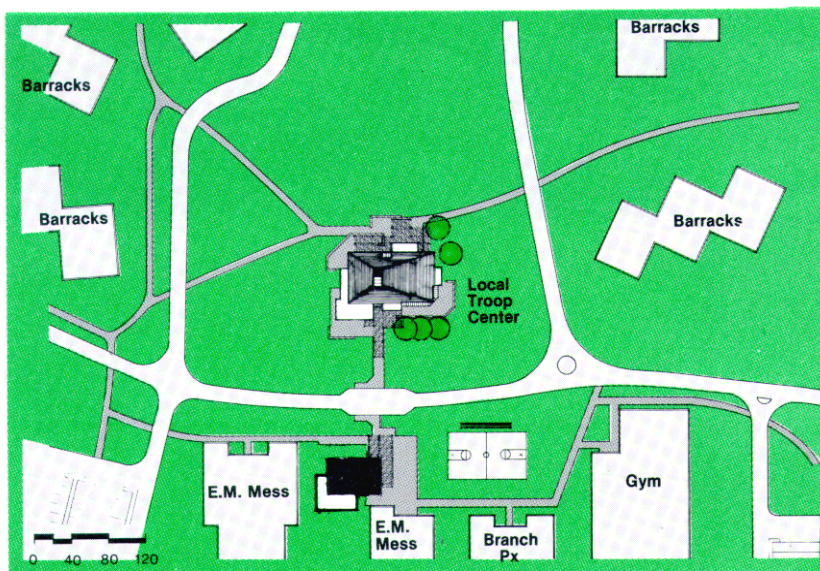


Figure 6 – 7 Fort Plains: Local Troop Center- Site Plan

(3) Building Organization. The Local Troop Center is roughly 6,600 square feet in area, and is designed to be compatible with the residential scale of its surroundings (see plan, figure 6 - 8, and elevation, figure 6 - 6). The core of the building is a series of activity spaces visibly open to each other and to the entrance. These spaces include the lounge, card lounge, games room, snack bar and reading area. Level changes between these areas, connected by ramps, provide further definition of the functional spaces while permitting a good overview of all the activities. All these open activity areas are joined under one large sloping roof (see figure 6 - 6), and center on a major fireplace chimney (see figure 6 - 8).

At the periphery of this large open area are the closed spaces housing specialized or noisy activities which require separation: self-directed crafts, darkroom and support spaces at one end; music practice rooms, electronic games, television lounge and multipurpose meeting room at the other. Where practical, these spaces are enclosed by glazed walls, making them visible from other activity spaces.

All these spaces are designed to be readily overseen from one central control desk. The small size of the center and generally non-technical nature of its activities allows this facility to be operated primarily by support staff. Even where acoustic separation of spaces is required, glazed walls permit one centrally-positioned staff person to be in charge of the whole Center.

The troop center is surrounded by outdoor activity spaces, defined by low walls to serve as extensions of the activity inside. The major corner spaces for reading, active games, and television have greenhouse windows to reinforce the connection with outdoor spaces. The terraces are located along already-existing pedestrian paths. They connect the barracks complex and its support buildings, encouraging the integration of these activities into the daily life of the local troops.

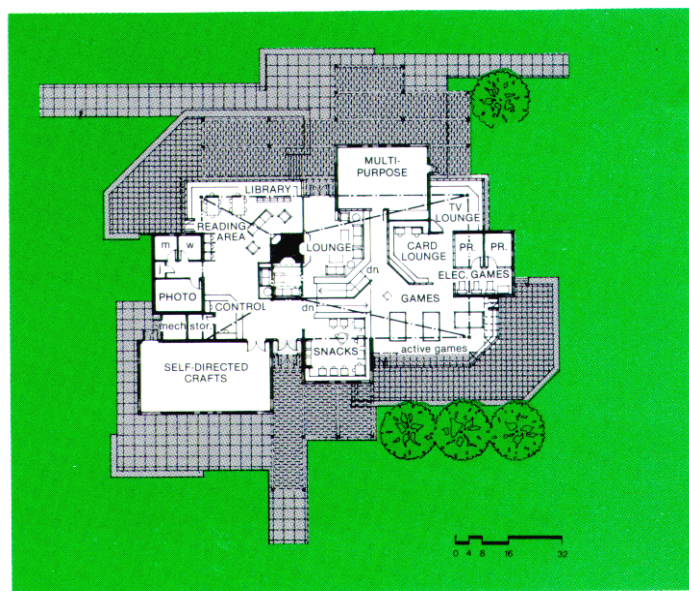
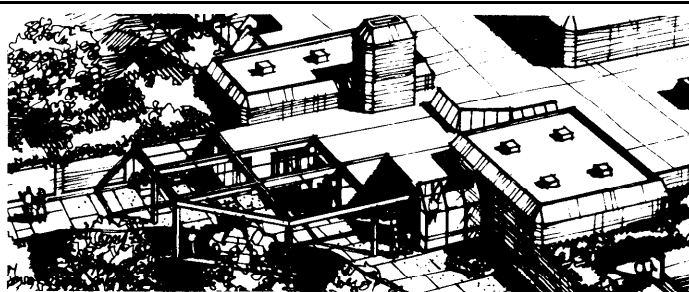


Figure 6 – 8 Fort Plains: Local Troop Center-Plan

6 - 3



Fort Hills: Local Troop and Family Centers

a. Post Situation and Population

(1) Surrounding Context. Fort Hills is located in a rural area of the Middle Western United States, in hilly terrain. It is ninety miles from the nearest large city, but within a few miles of two medium-sized towns. The closest town has a very extensive strip development along the long edge of the post boundary. This strip provides some fast food operations, restaurants, bars, pawn shops, recreation and entertainment facilities, and retail services. These off-post services are patronized by some of the post population, especially single troops; but most families and others avoid this area because of its unsavory reputation.

(2) Post Mission and Population. Fort Hills is the headquarters of an airborne division, with combat-ready troops and intensive training activities. Esprit de corps among personnel is high, with one of the highest reenlistment rates in the Army. The military strength of the post is 21,000. In addition, 26,000 military family members live on and off the post, 4,000 civilians work on-post, and 80,000 retired military and their families live in the surrounding area. Almost 50% of the military population is married, and 80% of the families have children.

(3) Geography. The post cantonment has a well-organized masterplan (see figure 6 - 9), with a well-developed Community Center/Main Post Center. The proposed post administrative center is right in the center. Most troop billeting stretches in a north-south band on the west side of the cantonment, with recent additions at the northern end. The troop billets are clustered in brigade-size units, with open space for sports fields, gymnasiums and other service facilities in between. The family housing consists of a series of neighborhoods on the east side of the cantonment, with officers' housing at the southern end and enlisted men and NCO's to the

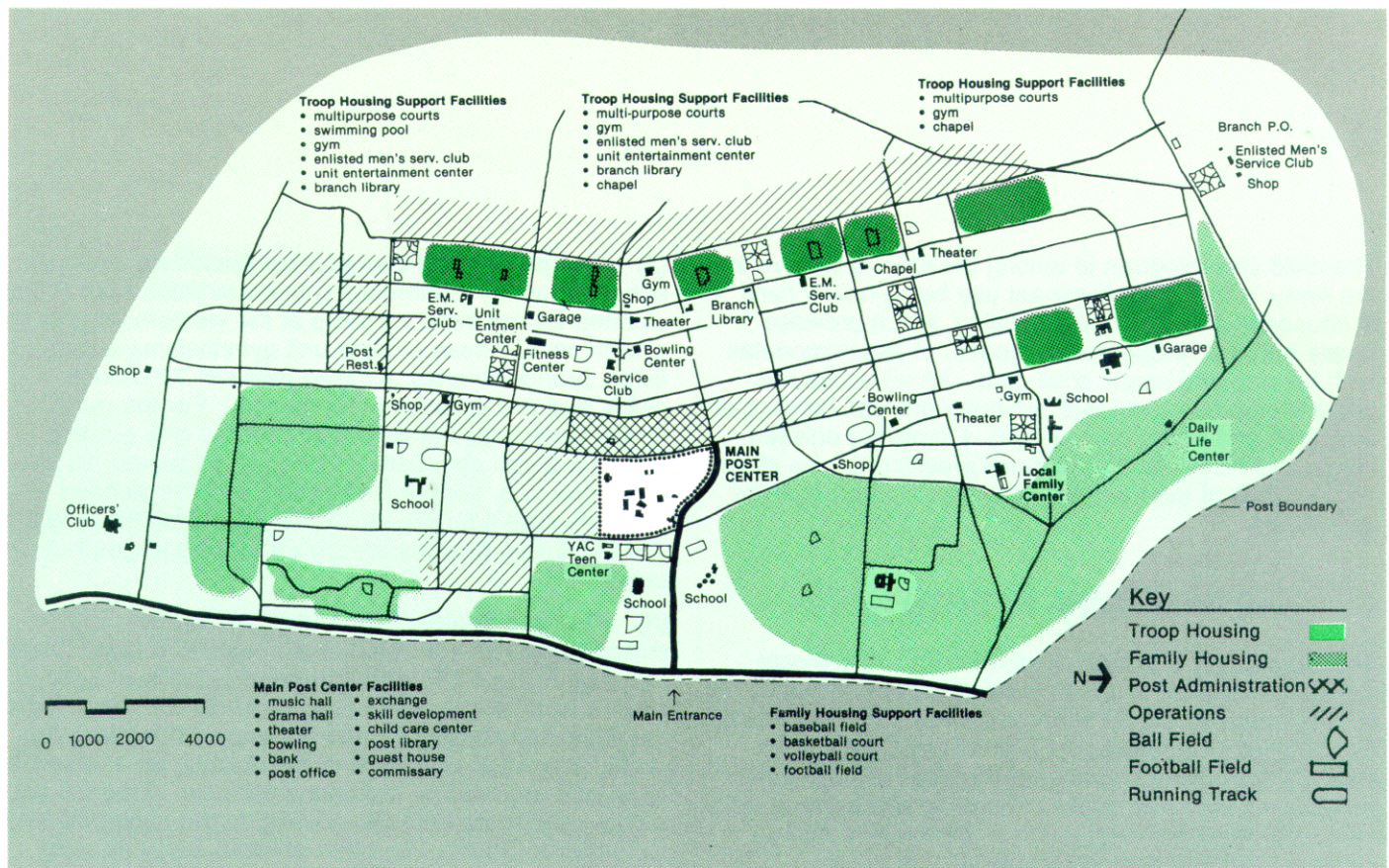


Figure 6 – 9 Fort Hills: Community Framework Plan

north. This family housing directly abuts the post boundary and the civilian town development. It is particularly dense and squeezed at the north end, where the enlisted family housing is very close to the most recent troop barracks.

b. Existing Programs and Facilities

Fort Hills' Morale Support Activities program is quite active and generally quite successful, with many substantial new facilities housing most of the post-wide and some unit-oriented programs. However, construction of MSA and other community facilities has not kept pace with the new housing construction at the north end of the post. For this dense troop billeting and family housing area, MSA programs are not readily available - the distance to the Main Post Center being over three miles (see figure 6 - 9). Where MSA facilities are shared by troops and families, the specific programs generally schedule separate times for activities for each, with great success. However, all involved agree that separate facilities would be preferred.

Most physical fitness activities have good facilities, except for outdoor sports and swimming programs. Heavy military training schedules limit intramural sports involvement. Arts and crafts, used primarily by families and auto crafts, used more by troops, are housed in excellent centralized facilities. Dinner theatre and large scale theatre performances are quite successful. But the music program is limited by poor accommodations in older facilities. No unit entertainment centers are convenient to the troops, the primary participants. The large new post library is excellent for reference and general reading purposes, but already in need of expansion. Branches, especially for families and youth, would considerably improve service to these users.

The two existing recreation centers are old, homey, and very heavily utilized. They are used by the troops more for drop-in activities (especially pool, ping pong, television) and by the families for scheduled programs. The recreation centers are in demand as the only places with music practice rooms. The centers are also heavily scheduled with day and night time classes, performing groups, and family community functions. Youth activities are extremely active, providing a program center, teen center and field house. These are housed in makeshift facilities in various locations amidst the family housing neighborhoods.

The child care program is among the most extensive in the Army, with the predominant use being hourly care. It is housed in an old hospital building, which provides ample but often inappropriate space. It accommodates both full-day and hourly child care. An attractive new officer's club has been built amid the officers' housing at the south end of the cantonment. Combined enlisted men's and NCO clubs have been provided, or are planned, in most of the troop billeting area support facilities complexes.

c. Community Framework

The Community Framework plan for Fort Hills (figure 6 - 9) in response to these existing factors, indicates the proposed distribution of MSA and other community facilities on post. The extensive Community Center/Main Post Center provides almost all the desired post-wide facilities. The configuration of housing and existing facilities determines the distribution of Community Activity Centers and other support facilities.

(1) Main Post Center. The Main Post Center is central to the entire cantonment, readily accessible from on and off post, and adjacent to the proposed post administrative center. It is also planned to be extremely comprehensive. The main exchange, commissary, bank, post office, movie theatre and other retail services front on a major parking area. At one end is an MSA complex including arts and crafts, music, drama and bowling. Nearby are the post library, guest house, the proposed general education facilities, main youth activity center and new child care center.

(2) Troop-Oriented Community Facilities. Reasonably satisfactory community support facilities exist or are planned for the troop barracks at the western edge of the cantonment. These provide unit gymnasiums, sports fields, branch libraries, enlisted men's/NCO service clubs, and unit entertainment centers. For the most recent troop billets at the north end, the only existing facility is a unit gym between the two brigades. To fill this major gap, a large local troop center is planned for this area (see figure 6 - 9) for which a detailed program and illustrative designs are presented in paragraph d, below.

(3) Family-Housing Community Facilities. The dense 3,000 - unit enlisted men's and NCO family housing area at the north end of the post is badly in need of a sizable local family center (see figure 6 - 9). Because of the limited availability of land at the post boundary, this facility is sited at one edge of the housing area, adjacent to an existing outdoor swimming pool and along the commonly used route from the housing to the shoppette and Community Center. The other officers' family housing areas are less densely developed. Some are close enough to be served by the main post center, others are effectively served by the Officers' Club. However, a second local family center may be considered for the southern family housing at a future time.

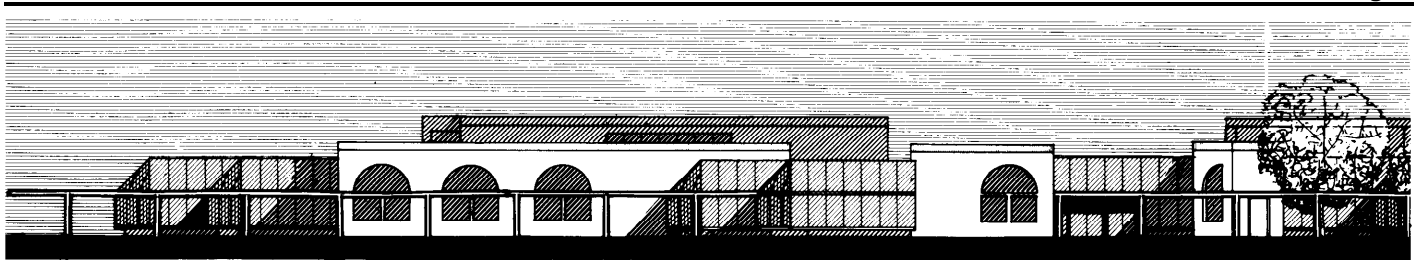


Table 6 - 4 Fort Hills Local Troop Center with Specialized Activities: Space Program

Function-Space	Area (Gross Square Feet)	
Social Activities		15,470
Small Group Activities	10,800	
I Active & Electronic Games	2050	
I Television Lounge	1680	
I Table Games	950	
I Open Multipurpose	1250	
I Enclosed Multipurpose	3080	
I Telephone Lounge	160	
I Meeting/Rehearsal	1630	
Administration	1160	
I Offices	600	
I Information, Tour & Travel (ITT)	200	
I Control Center	360	
Refreshment	3510	
I Snack Bar	2740	
I Kitchen	770	
Arts and Crafts	5,950	
General Crafts & Woodwork	5450	
Photography	500	
Music	2,470	
Practice & Listening Rooms	1920	
Instrument Checkout	550	
Drama	11,610	
500-seat Theatre	7960	
Stage & Dressing Rooms	2690	
Rehearsal Room	960	
Library	4,950	
Card Catalogue	120	
Control & Office	930	
Periodicals	750	
Stacks	1010	
Reading	2140	
Physical Fitness	28,340	
Gymnasium	9400	
Swimming Pool	9000	
Handball/Racquetball	3200	
Exercise/Fitness	2480	
Support	4260	
I Trainer/First-Aid	290	
• Lockers	1400	
I Showers	540	
I Toilets	520	
I Sauna/Whirlpool Bath	520	
• Laundry	190	
• Equipment Issue and Storage	350	
I Office/Control/ Concession	450	
General Support	5,220	
Maintenance	100	
Toilets	1000	
General Storage	4120	
	Total	74,010

d. Local Troop Center with Specialized Activities

(1) Program. This large local troop center for Fort Hills is programmed to serve two brigades, with 6,000 to 7,000 troops, that are far from any other community facilities. The building is intended to provide significant activities in all MSA program areas; physical fitness, theatre, music, arts and crafts, library and social activities. The program of functional spaces, totalling approximately 74,000 square feet, is detailed in table 6 - 4.

(2) Design Solution. The design of this local troop center reflects several key concepts (see plans, figures 6-10 and 6-12):

- Any duplication of programmed space that could be shared is eliminated. All meeting or classrooms are designed to be used as listening rooms, rehearsal rooms, or lounges. Different programs, such as arts and crafts, library, and recreation, are expected to share classroom/meeting space through time scheduling.
- The building consists of two major components. To the right of the main entrance are the more active, noisy athletic and drop-in/social functions, to the left are the arts and cultural activities. So that all program areas are reasonably close to the main entrance and control desk, a "T"-shaped circulation system was designed, with social activities and physical fitness in one wing, library, music and theatre in another, and arts and crafts with support spaces on the third.
- Visibility of activity from the entrance/lobby and other areas was a primary design goal. This arrangement both invites visitors to investigate new activities and permits easier staff supervision. Several means are used to provide this visibility. The space is divided by low partitions and furnishings so that it is as open as possible, as in the lobby, lounge, games and snack areas (all parts of the building are sprinklered, for adequate fire protection). Where closure is required, glass walls are used where feasible, with curtains for privacy when necessary, as in the library reading rooms, music listening/practice rooms, multipurpose meeting rooms, crafts, gymnasium and swimming pool spaces. Waiting lounge spaces are furnished to attract spectators and overlook the gym, pool, crafts and music practice spaces.

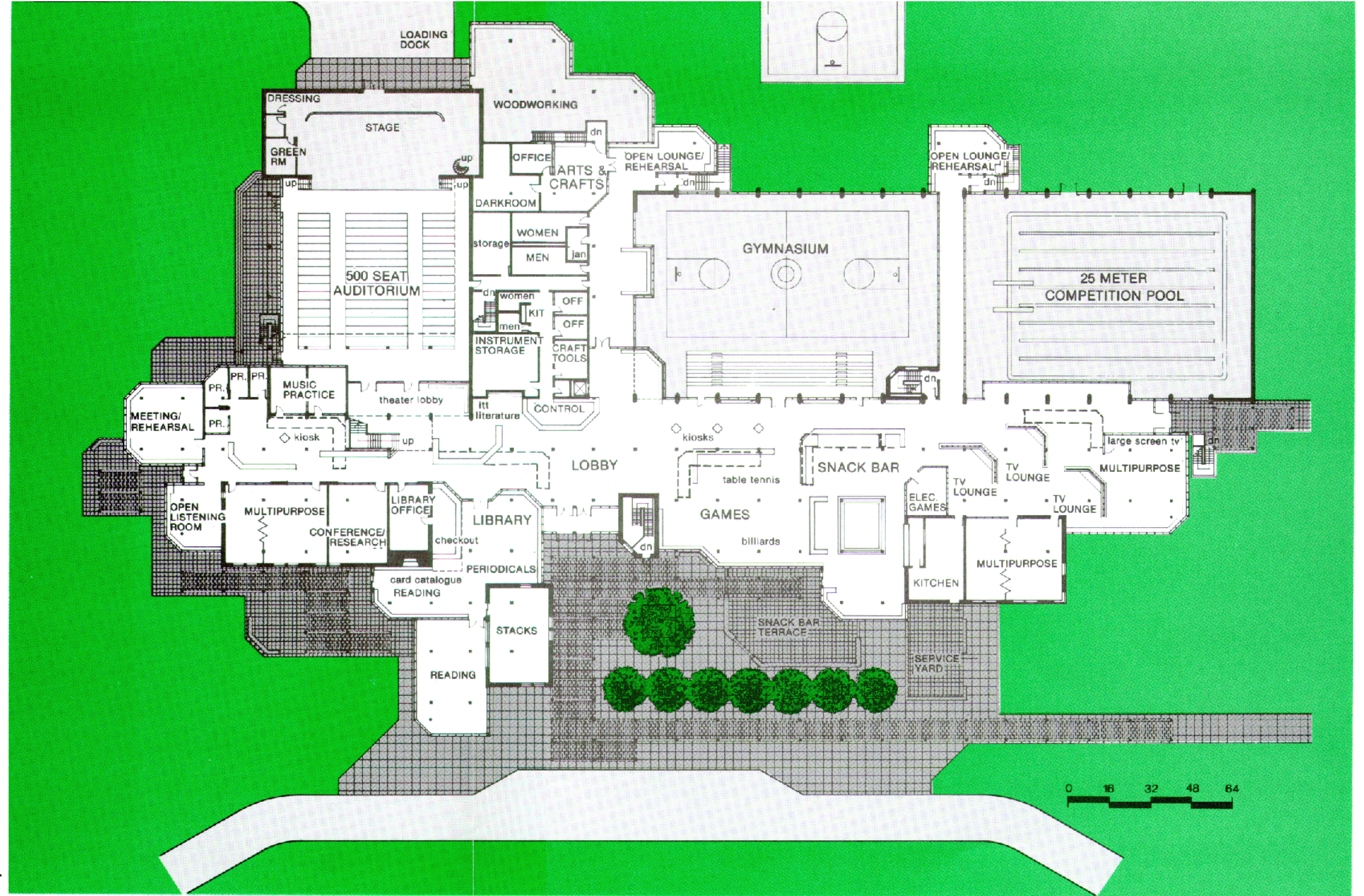


Figure 6 – 10 Fort Hills: Local Troop Center-
Main Floor Plan



Figure 6 – 11 Fort Hills: Local Troop Center-Elevation

- In order to get natural light into as much of this large building as possible, the building is long and narrow. Also for this purpose, large glazed walls are designed for almost all the program areas, both to the exterior and to the circulation spaces. Large skylights introduce even more light over program and circulation spaces (see section, figure 6 - 13, and elevation, figure 6 - 11).

(3) Building Organization. Immediately inside the main entrance is the lobby, with a central control desk that provides views in all directions to all major program areas (see figure 6 - 10). The control desk, with enclosed offices and equipment storage behind, also operates all equipment provision, supplies sales, information and ITT for the center. The desk even controls access to support spaces like the toilets, which are centralized in the wing behind the control area. The social activity spaces such as games, snack bar, lounge, television, and meetings, open onto the lobby/circulation area. These are designed as continuous open space subdivided by low or medium-height walls, with built-in seating (zone (1), always open, except for one closed meeting room and the support spaces).

Across from the recreation areas, at a lower level (see section, figure 6 - 13), are a large gymnasium/basketball court, with bleachers (zone (2), "usable with support staff") and a 23 - meter competition swimming pool (zone (3), usable only with program specialists). The pool and gym are visible from the main level through glazed walls, with overlooks, and with direct access to the bleachers. These double-height spaces are served by shared lockers, showers, sauna, storage and other support spaces, located underneath the recreation areas, providing direct access to the pool and gym. A main lobby/control desk that serves both the gym and pool is at the center of this lower level sports area which includes racquetball courts and exercise rooms. Outdoor sports fields are directly accessible from this area.

On the other side of the main level control desk is an open lounge/waiting/circulation area providing a gathering space for the library, music area, and theatre (see figure 6 - 10). The large branch library, about 6,000 square feet, is designed to be as open as possible, with an accessible large general reading and periodicals area and lounge combined. This open lounge is supervised from the central control desk, and enclosed only by glazed walls for acoustic separation (zone (1), always open). Another more specialized reading area is more separated but still open and visible through glass walls (zone (2), usable with support staff). The stacks are closed (zone (3), usable only with program specialists), while the office is enclosed and off-limits (zone (4), staff only). This library is the illustrative example used to define these zones under Design for Consolidated Activities (see figure 5 - 9).

The music area includes six acoustically-sealed practice rooms, with glazed walls for views in and between each other, plus four rehearsal/listening/meeting/lounge rooms, of varying size and closure (generally zone (2), usable with support staff). The music spaces surround a lounge/waiting area with built-in seating. The theatre, one of the few large enclosed, unglazed volumes in the building (zone (3), only with program specialists), seats 500 on the main level plus the mezzanine (see plans, figures 6 - 10 and 6 - 12). This large hall is required for an active schedule usually consisting of a dozen major theatre productions per year. The theatre has direct exterior access from the stage and floor. There is a direct connection from backstage to the shared woodworking/set production shop.

The arts and crafts area is a two-level complex on the main and basement levels. It includes a darkroom and general purpose crafts space on the main level, overlooking the two-story woodworking shop (generally zone (3), with program specialists only). The woodworking area has direct exterior access for receiving material, and is adjacent to the theatre stage in order to double as the stage workshop. On both levels of this wing are other miscellaneous crafts and exhibition areas (zone (2), with support staff), a lounge/meeting space (zone (1), open), and various support spaces (zone (4), staff only). These work areas open onto a sculpture terrace for working on large projects or displays.

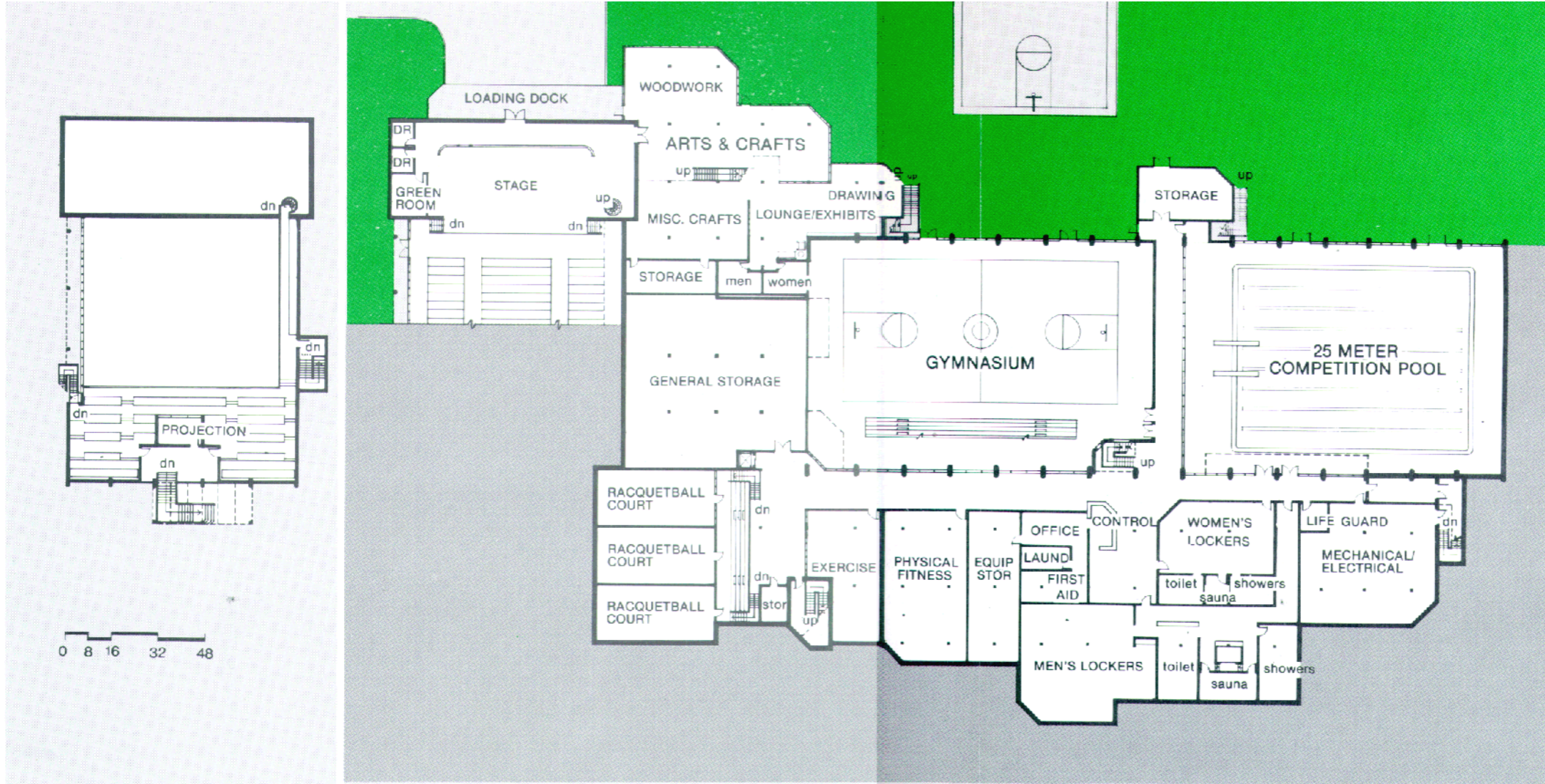


Figure 6 – 12 Fort Hills: Local Troop Center- Balcony and Basement Plan

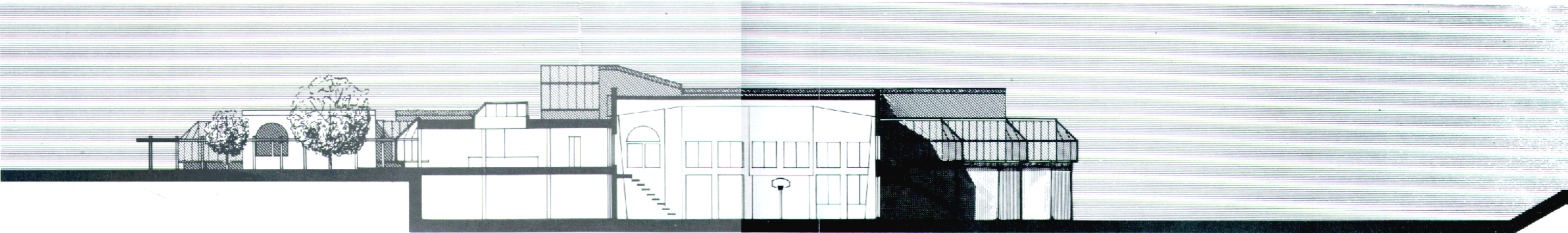
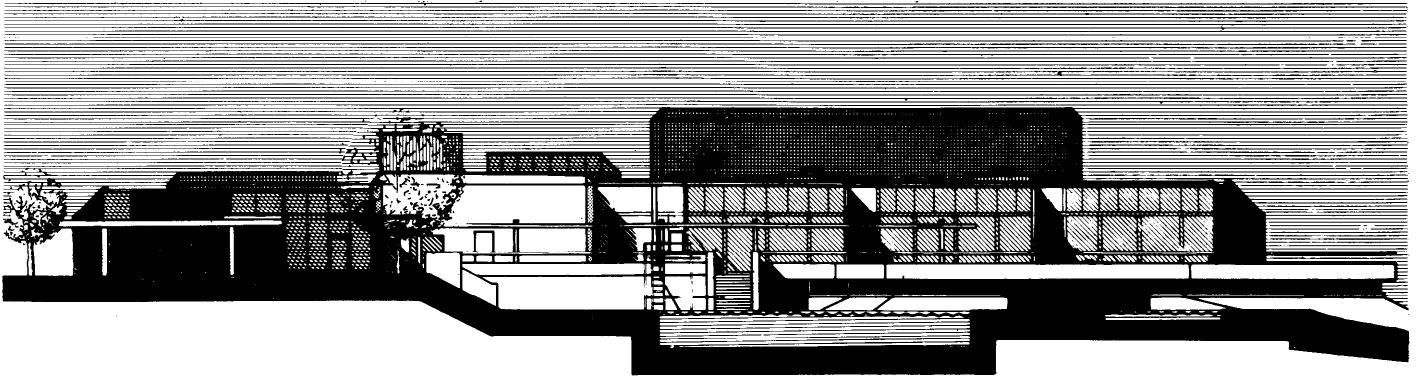


Figure 6 – 13 Fort Hills: Local Troop Center-Section



e. Local Family Center With Specialized Activities

(1) **Program.** The Fort Hills local family center is programmed to serve the dense enlisted men's and NCO family housing area at the north end of the post (see Community Framework plan, figure 6 - 9). About 12,000 people are living in 3,000 units of housing with almost no local services. The building program calls for about

Table 6 - 5 Fort Hills Local Family Center with Specialized Activities: Space Program

Function-Space	Area (Gross Square Feet)	Function-Space	Area (Gross Square Feet)
Social Activities	10,530	Physical Fitness	15,460
Small Group Activities	7720	Multi-purpose Gymnasium	7650
• Active and Electronic Games	2830	Handball/Racquetball	2400
• Television Lounge	880	Exercise/Dance/Weights	1300
• Table Games	1400	Outdoor Swimming Pool (50 meters)	-
• Open Multipurpose	560	support	4110
• Enclosed Multipurpose	2050	• Trainer/First-Aid	240
Administration	810	• Lockers	1620
• Offices	250	• Showers	350
• Control Center and ITT	560	• Toilets	320
Refreshment	2000	• Sauna	220
• Snack Bar	1200	• Laundry	100
• Kitchen	800	• Equipment Issue and Storage	930
Arts and Crafts	8,230	• Control	330
General Crafts	6500	Child Care	6,640
Crafts Supply Shop	320	Primary Indoor Activities	3490
Office and Storage	1410	• Infants	900
Music	1,340	• Toddlers	640
Practice/Listening Rooms	1020	• Preschoolers	990
Instrument Checkout/Storage	320	• Drop In	960
Drama	5,600	Support	3150
Stage (in Multipurpose Gymnasium)	2560	• Administration and Staff Lounge	570
Dressing Rooms	480	• Special Child Services	100
Storage	2560	• Reception/Transition Areas	2030
Library	2,440	• Food Preparation	300
Card Catalogue	80	• Storage	120
Control	150	• Maintenance	30
Periodicals	360	General Support	1,800
Stacks	890	Maintenance	100
Reading	960	Toilets	700
		General Storage	1000
		Total	52,040

52,000 square feet in order to provide 2 ranges of MSA activities such as physical fitness, social activities, music, arts and crafts and library. A small child care center combining full-day, part-day and hourly day care spaces is also included. Table 6 - 5 provides a detailed functional space and square footage program.

(2) Design Solution. The design for this family center is based on the following concepts (see perspective, figure 6 - 14, and plans, figures 6 - 15 and 6 - 16):

- Maximize open space, visibility and accessibility. Spatial definition is provided by low walls and small changes in floor levels. Even closed volumes are designed to be largely visible from the general-use spaces through glazed walls (see figure 5 - 10 for zoning diagram of this center).
- Avoid duplication by maximizing shared meeting/class/rehearsal/lounge spaces, as in the Fort Hills local troop center.
- Relate the inside activity spaces closely to the landscaped areas outdoors. On one side, the library, music practice and child care areas overlook the wooded area beyond. On the other side, taking advantage of the sloping site, the more active spaces such as the athletic, snack bar and games spaces overlook an outdoor terrace, swimming pool and nearby playing fields. In this way, the area provides an attractive sense of open space for the family users (see perspective, figure 6 - 14, elevation, figure 6 - 17, and section, figure 6 - 18).
- Clearly define the site. Exterior site walls connect the main building volumes and focus approaching visitors toward the entrance. They also protect the outside swimming pool and child care play spaces from the vehicular access area.

(3) Building Organization. Two major site walls define the entrance. The lobby, supervised from the control desk, opens out immediately onto a continuous space that includes circulation, lounge, snacks, and games areas (figure 6 - 15). This open space abuts two sides of the gym, is subdivided by low walls and raised platforms defining snack areas and table games areas,

and is accessible to the handicapped through short ramps. One wing of this continuous space overlooks and provides access to a deck and the outdoor 50 - meter swimming pool and diving pool. The other wing of the recreation area overlooks the gym through large glass walls.

The gymnasium, half a level lower than the main lobby and recreation spaces, doubles as a performance/function space with a stage and dressing rooms at one end. Gym support spaces, as well as exercise rooms, racquetball courts and athletics control desk, are half a level below this in the basement (see plan, figure 6 - 16, and section, figure 6 - 18). These athletic support areas also open directly outside, serving the outdoor swimming pool and sports fields.

The music area provides four enclosed practice rooms, a glazed listening room and three shared multipurpose rehearsal/meeting rooms, with a small sitting-lounge entry area. The crafts space occupies two levels, with a two-story open connection between, and includes a separate control/office/supplies cluster, general crafts, ceramics, and woodworking. The woodworking area abuts the stage of the gymnasium and doubles as a theatre performance workshop. The crafts area opens onto an outside court for an extended work space.

Across from the main control desk is a small (1500 square foot) branch library for recreational reading and children's collections. The main library space is always open, continuous with the lobby and with a fireplace reading area. Another library reading and collections room is glazed but closeable. The library and the control desk, with its associated office and storage spaces, form two large volumes defining either side of the main entrance.

The child-care center is designed as a separate structure for independent identity and convenient drop-off (see figure 6 - 15). It is connected to the main building by the site-defining walls. The 2,000 square-foot space accommodates full-day and part-day, as well as hourly programs with separate spaces for the different ages - infants, toddlers and pre-schoolers. A reception desk and staff lounge/office area is at the core of the space, but parents bringing children have direct access to each individual room. Between the child-care center, the main building and the protective site wall are outdoor play spaces for each age group, accessible directly from the classrooms.

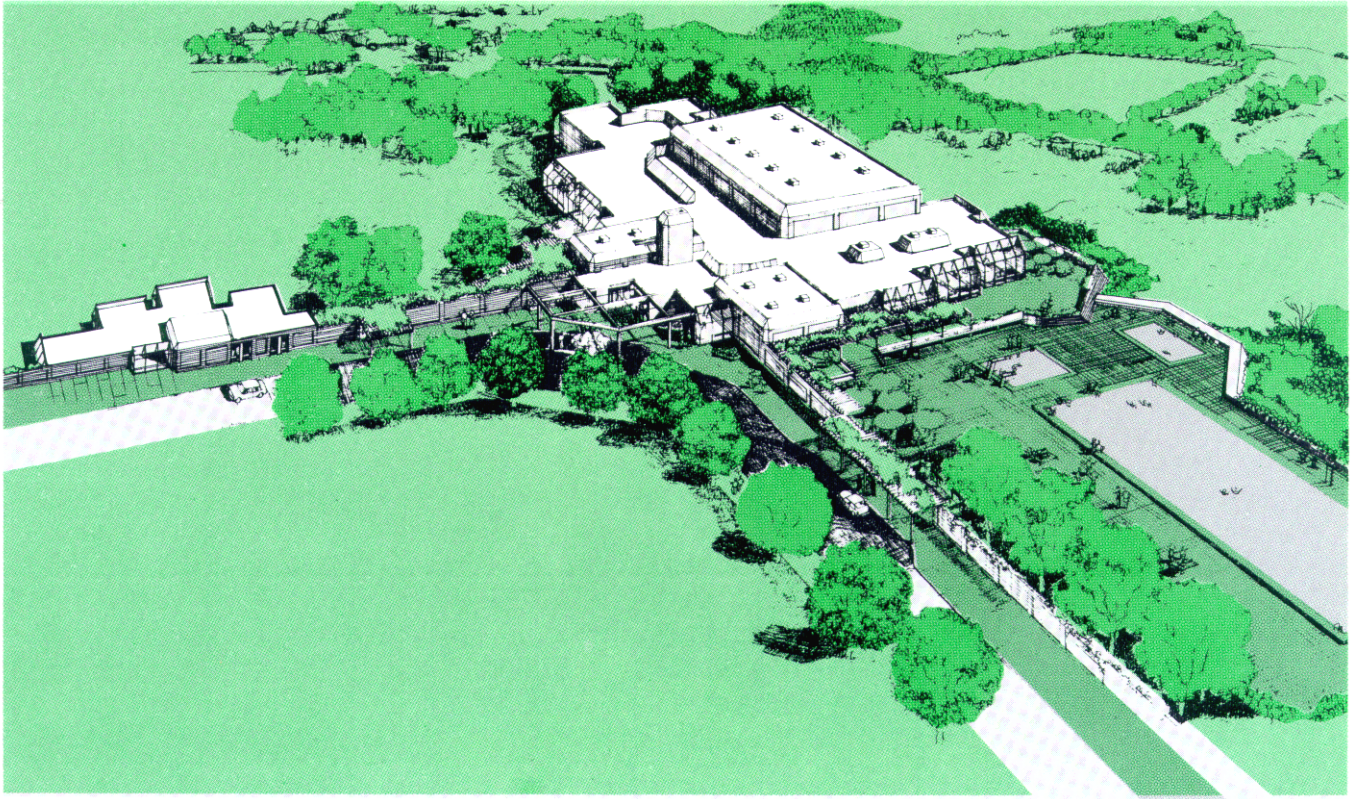


Figure 6 – 14 Fort Hills: Local Family Center

Fort Hills
Local Family Center

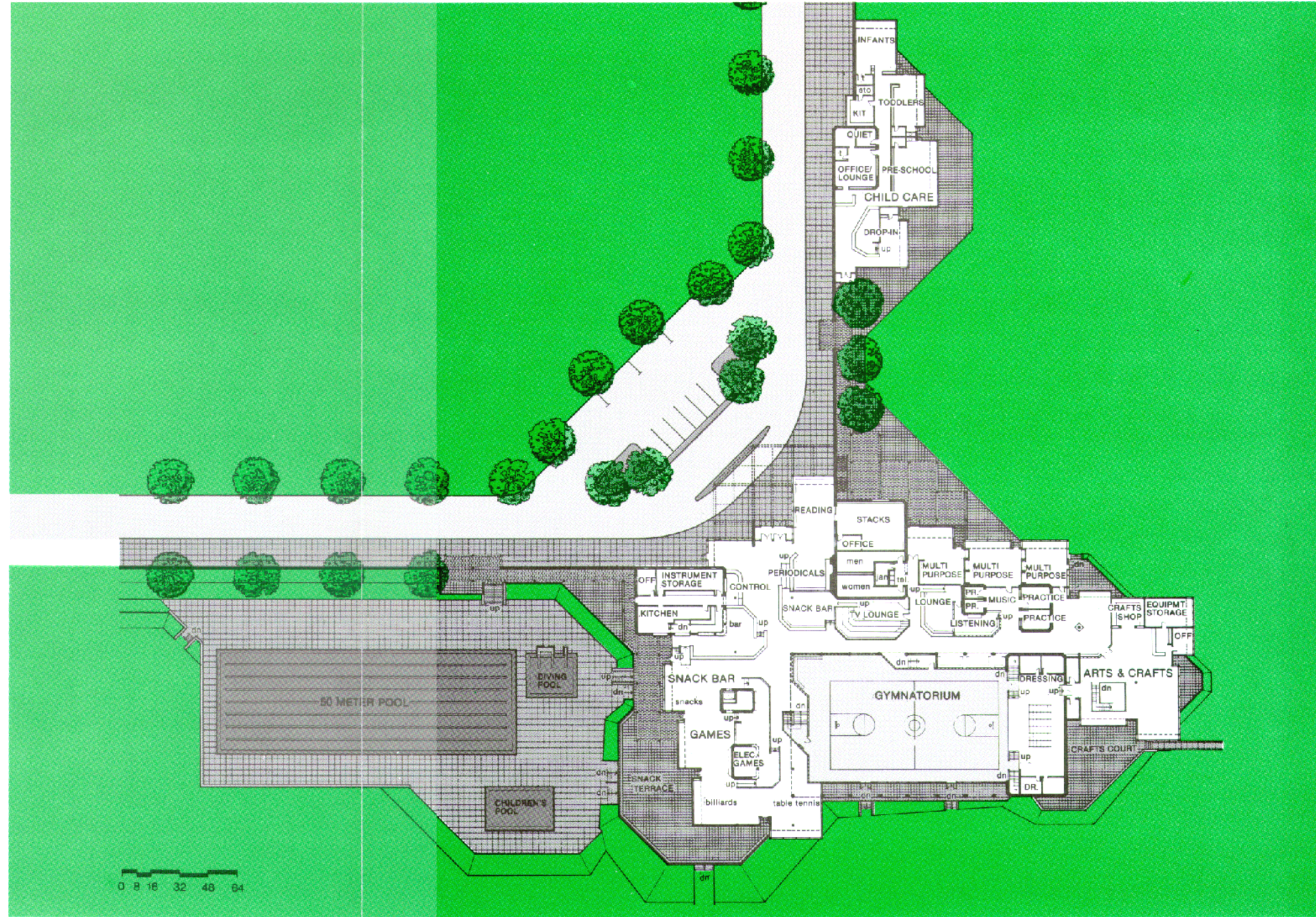


Figure 6 – 15 Fort Hills: Local Family Center- Main Floor

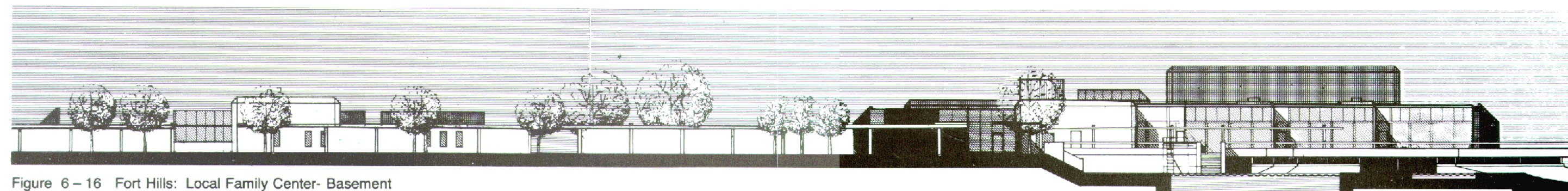


Figure 6 – 16 Fort Hills: Local Family Center- Basement

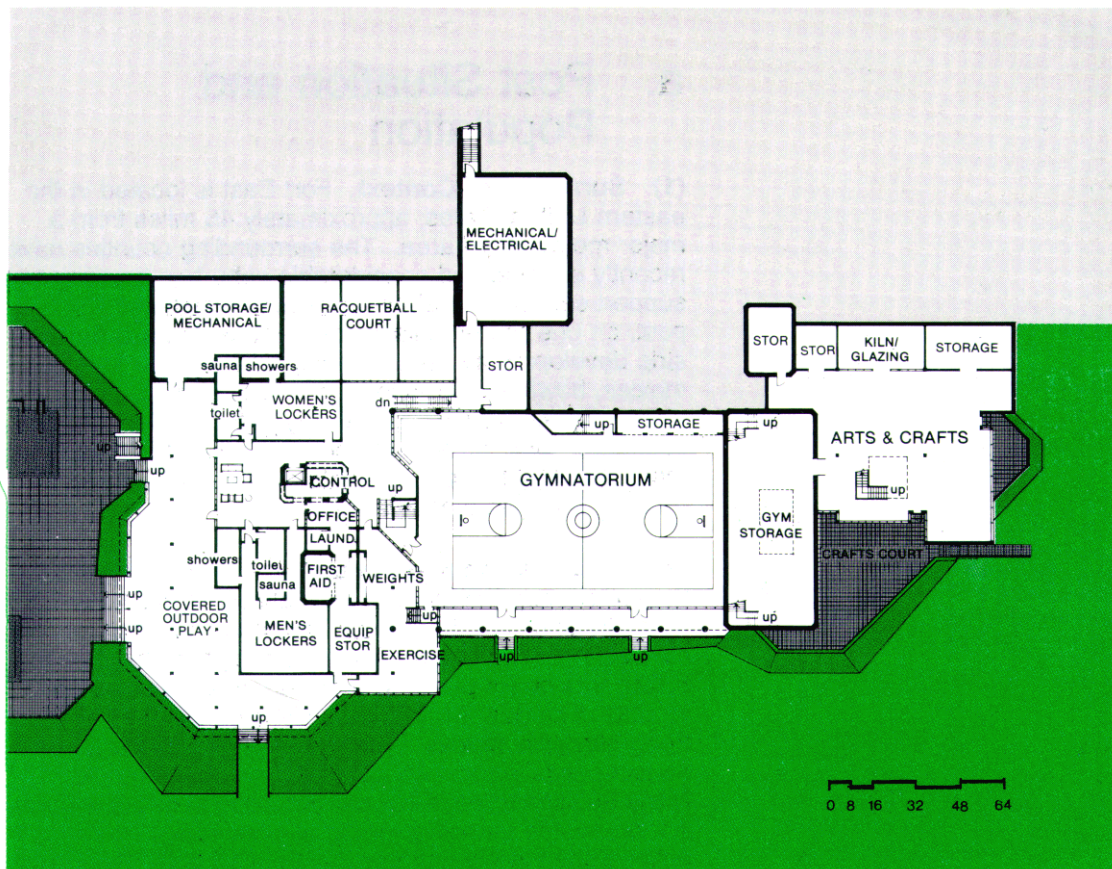


Figure 6 – 17 Basement Plan

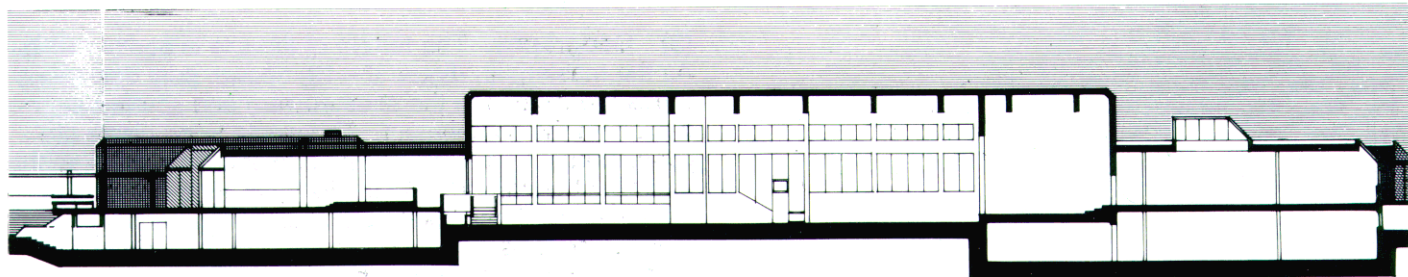
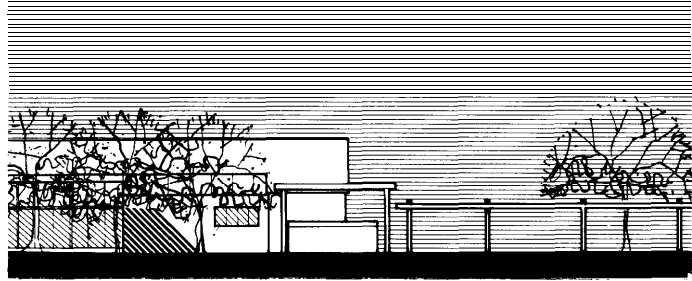


Figure 6 – 18 Section

6 - 4



Fort East:
Renovated Local Troop Center

a. Post Situation and
Population

(1) Surrounding Context. Fort East is located in the eastern United States, approximately 45 miles from a major metropolitan area. The surrounding counties have recently experienced considerable suburban housing and support services development. Immediately outside the post, on one of the major access roads, is an extensive strip development of restaurants, fast food outlets, bars, movies, bowling, recreational activities and retail services. These facilities are heavily patronized by the on-post population, as are the recreational and entertainment opportunities of the nearby metropolitan area, for evening and weekend activities.

(2) Post Mission and Population. Fort East primarily supports a large number of specialized, highly technical operational units with diverse functions, including technical training. The current military strength of the post is 8,500, though for planning purposes it is projected as 15,000. The post contains slightly over 4,000 single troop barracks spaces. There are roughly 3,000 family housing units, accommodating about 10,000 people. Many additional single troops, and some married military, live off-post in the surrounding communities. There is an active dependent youth population of 12,000. Post facilities also serve some 20,000 civilian employees who work in the technical operations, and approximately 67,000 military retirees in the area.

(3) Geography. The terrain of the site is gently rolling. As the masterplan (figure 6 - 19) shows, post operations areas are located in the southeastern and southwestern sectors of the cantonment. The single troop billets are concentrated near some of the operations facilities, in the southwest quadrant. The family housing is clustered in closely packed neighborhood units with individual elementary schools, mostly in the northern half of the cantonment and near the post boundary. The beginning of a Community Center, including main exchange, exists in

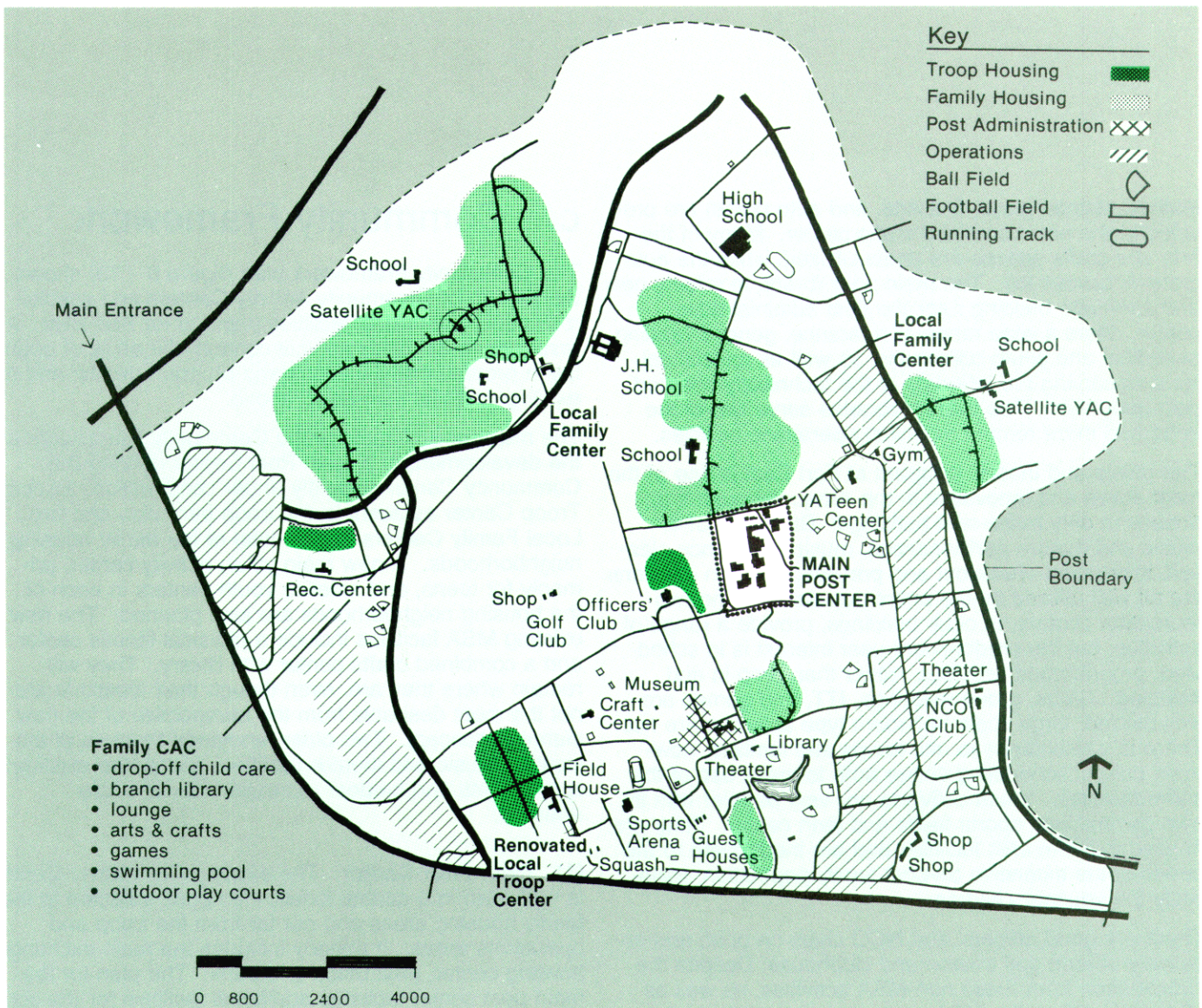


Figure 6 – 19 Fort East: Community Framework Plan

the center of the cantonment, between the family housing and the operations/troop billeting areas. The post administrative center is located slightly to the south of this center.

b. Existing Programs and Facilities

Fort East has an extensive MSA program in most functional areas. It is generally adequate for the users' needs, with the exception of sports, family programs, and child care (a non-MSA program of particular importance here). The facilities for these programs vary greatly in age and quality. There are excellent new buildings for physical fitness, swimming, arts and crafts, auto crafts,

library, and bowling. The recreation centers, youth activities, music and theatre, and child care are housed in inadequate temporary structures. The MSA programs generally tend to be particularly heavily patronized by families - soldiers and their dependents - largely because the single troops seem to be more likely to take advantage of the competitive off-post recreational and entertainment opportunities.

The most active MSA programs are the physical activities, with over one hundred teams in various sports. The available facilities cannot accommodate as full a program as is demanded by the users, even though the existing facilities include a new physical fitness center, indoor swimming pool, bowling center, and some older facilities such as the field house (see figure 6 - 19). A full range of arts and crafts activities (wood, ceramics, photography,

leather, stained glass, fine arts, and auto crafts) are provided in the new combined crafts center. Many of the arts and crafts spaces are under-utilized, while the auto crafts is always full. The main post library, in a fairly new and adequate building near the post administrative center, offers a wide range of reference, general reading, periodical and youth collections, as well as special collections serving the interests of the technically-oriented post population. Two branch libraries serve two of the large and more remote technical operations facilities.

The music and theatre program at Fort East is one of the most active and innovative in the Army, although it is housed in only make-shift buildings. Dinner theatre, music and theatre performances, music and dance classes, instrument check-out and practice, and jam sessions are all well utilized by the entire population. The two recreation centers, in older buildings, provide a range of activities, but the predominant user interest is in scheduled, programmed activities, rather than drop-in and lounging. Clubs, group meetings, ITT, and games are well-utilized, large-scale ball-room type activities are not. There is a reluctance to mix troops and families, however, careful scheduling allows both to make use of the same facilities. Youth activities are very popular with its own gymnasium, sports fields and teen center. They are housed in make-shift facilities that are inadequate to the needs of the extensive on-post family population, especially the younger children.

There are good officers' and NCO clubs on post, and an actively utilized golf course and clubhouse. Despite the competition from these non-MSA activities, as well as off-post facilities, the MSA program is generally well-run and well-attended. Gaps in the sports, recreation, family services and youth activities areas need to be remedied.

c. Community Framework

The Community Framework plan (figure 6 - 19) shows the pattern of Community Activity Centers and specialized other community facilities planned for Fort East. It responds to the geographical context, the array of population groups, their locations and program needs, and the existing facilities discussed above.

The major components of the Community Framework are the development of a Main Post Center utilizing the Community Center currently under construction, a Local Troop Center adjacent to the troop barracks, and two Local Family Centers in the midst of the family housing neighborhoods. A new main youth activity center, primarily for teens, and satellite youth centers in each of the housing neighborhoods are also planned. The new existing MSA facilities include a physical fitness center and a combined crafts center with library. They will remain where they are, even though their locations are not the most desirable from the perspective of the new planning concept. Two older renovated theatres of the existing music and theatre facilities, and all the existing sports fields and outdoor recreation facilities, are retained.

(1) Main Post Center. The existing Community Center is well-sited in a central location on post, adjacent to the family housing areas and not far from the troop and operations areas. It already includes the main exchange, bowling center, post office and bank. The plan for the main post center includes additional facilities for the commissary, MSA theatre, movie theatre, child care center (with full-day, part-day and hourly care), ladies' gym, community services, emergency relief, shoppette, amusement center, and other retail stores (see figure 6 - 20).

The Fort East Main Post Center provides a good mix of MSA, commercial and community services which all benefit from shared parking, and mutual attraction and activity generation. The center is oriented heavily toward family functions (ladies gym, child care, community services) because of the large family population and the absence of existing facilities. Also, the site is conveniently located with respect to all the family housing neighborhoods. Arts and crafts, music, and some indoor sports are adequately provided in existing facilities and are not included in this center.

(2) Local Troop Center. This local Community Activity Center serves the concentration of troop barracks at Fort East. It is a renovation of an existing recreation center. It accommodates a full range of local activities, plus one major specialized activity serving the whole post. An existing field house, chapel, new branch exchange and outdoor swimming pool are nearby and, together with the renovated facility, form a local CAC complex. Programs and illustrative designs for this project are presented in detail in paragraph d, below.

(3) Local Family Centers. Two local family centers are proposed for Fort East. One is located at an intersection of two main roads within the family housing areas, next to an existing shoppette. The other is located next to an existing elementary school and a proposed satellite youth center, near a dense enlisted men's family housing neighborhood.

These Community Activity Centers provide a full range of locally needed programs. Each includes family oriented activity areas including a lounge, snack bar, large multi-purpose program room, serving kitchen for community

functions, small arts and crafts area (ceramics, home repair/light woodworking, and photography lab), games room, a small basketball court with support spaces, branch library, small hourly child care, and possibly an outdoor swimming pool.

(4) Youth Activity Centers. The large family and youth population on this post is served by a main youth activities/teen center and three juvenile-oriented satellite youth centers with one in each of the major housing neighborhoods. The main center replaces an existing teen center nearby. It is located near the existing youth baseball and other sports fields at the edge of the family housing areas. The satellite centers are designed to serve each neighborhood's younger population, with largely volunteer staffing. They are sited at the already-existing focus of each area, next to the neighborhood elementary school. This system is more fully developed, and programs and designs for the individual facility types presented, in DG 1110 -3-138, Design Guide for Dependent Youth Activity Centers, Chapter 7, Illustrative Designs.

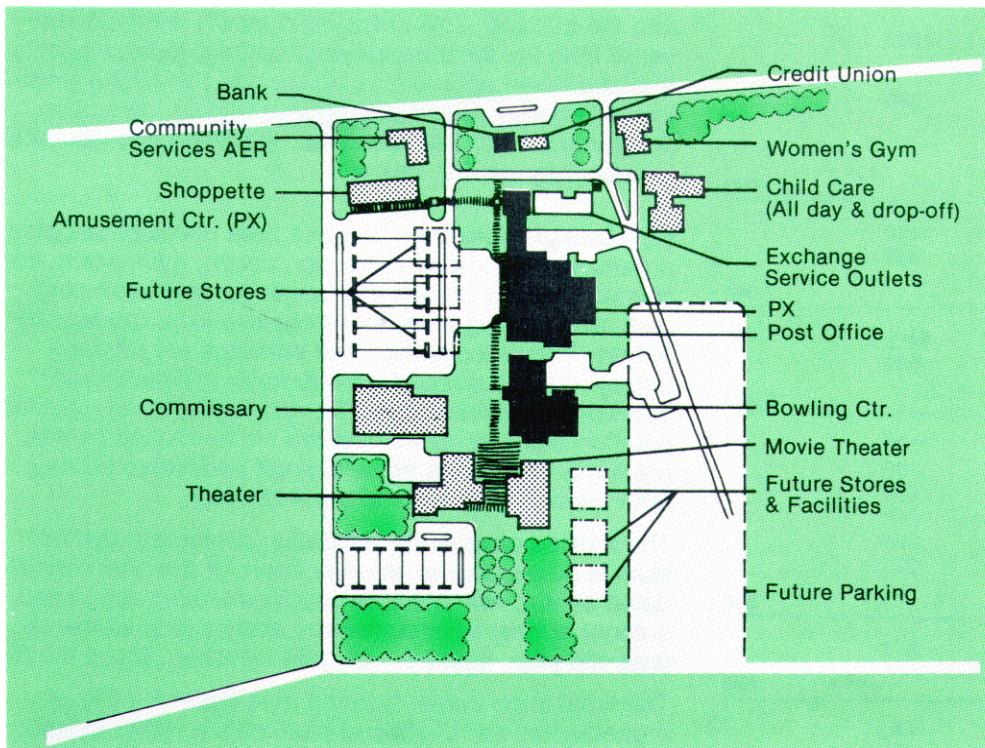


Figure 6 – 20 Fort East: Main Post Center- Diagrammatic Plan

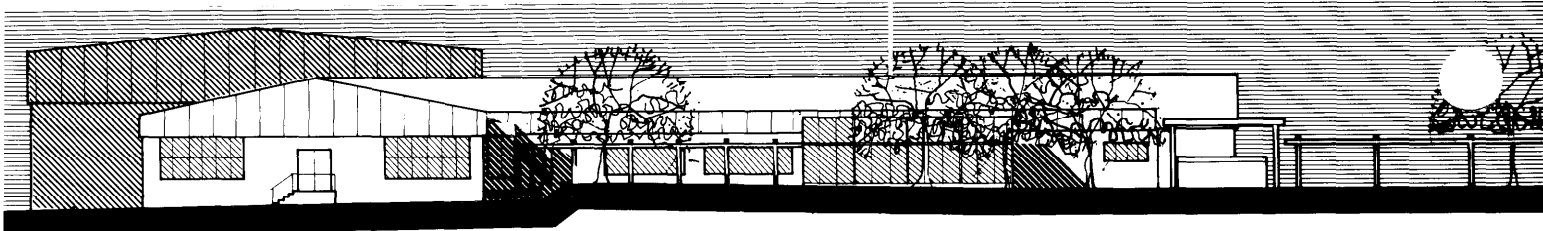


Figure 6 - 22 Elevation

d. Renovated Local Troop Center

(1) **Program.** This center serves the 4,000 unattached troops housed in the immediately adjacent barracks complex. The intention is to provide as wide a range of locally-appropriate activities in a consolidated center requiring a minimum of program specialists. The center should be economically operated and open a maximum number of hours each day.

The function and space program for this local troop center are indicated in table 6 - 6. The areas included do not provide the full amount of space allocated for 4,000 troops. The remainder is to be provided by additional facilities on a post-wide basis. The existence of an underutilized 35,000 square-foot recreation center at the site was also taken into account. Most of the functions are intended to serve the local troop population. However, the existing large ballroom space, no longer appropriate for current needs, provided the option of programming a music/performance theatre, with support areas, into the building. This specialized facility is intended to serve both the local troops and the post-wide population, and should be operable as a separate part of the building. Alternative specialized activities could have been programmed into this space, as discussed and illustrated in subparagraph (3), below.

(2) **Design Solution.** The site area development plan organizes the existing recreation center, gymnasium and chapel, the new branch exchange, outdoor swimming pool, and parking area, as a cohesive local Community Activity Center complex. The buildings are related through careful siting of new structures, coordinated pathways, a connecting trellis, and landscaping. The orientation of the complex, and the old recreation center, are turned around to provide direct pedestrian access from the troop barracks to the northwest.

The space between the recreation center and gymnasium is developed as an entry court for the new consolidated center, with a stepped sitting/meeting space and outdoor activity area defined by landscaping elements (see site plan, figure 6 - 21, and elevation, figure 6 - 22).

The local troop center building (see figure 6 - 23) is organized as an "L"-shaped plan, plus a rather-independent music/performance wing. The center is designed, as much as possible, as continuous open space subdivided by low walls and by changes in the ceiling height

Table 6 - 6 Fort East Renovated Local Troop Center: Space Program

Function-Space	Area (Gross Square Feet)	
Social Activities		9,040
Small Group Activities		6320
• Active and Electronic Games	2130	
• Television Lounge	520	
• Table Games	850	
• Fireplace Lounge	570	
• Meeting Rooms	2250	
Administration		1080
• iControl Center/ITT/Storage	1080	
Refreshment		1640
• Snack Bar	1280	
• Kitchen	360	
Arts and Crafts		1,660
General Crafts		1130
Photography Lab		530
Music		2,040
Practice and Listening Rooms		1460
Instrument Checkout		580
Drama		9,280
Experimental Theater, incl. stage	7300	
Control	100	
Dressing Rooms	530	
Workshop/Storage	950	
Toilets	200	
Green Room	200	
Library		570
Reading Rack/Reading Area	570	
General Support		650
Maintenance	170	
Toilets	480	
Total		23,240

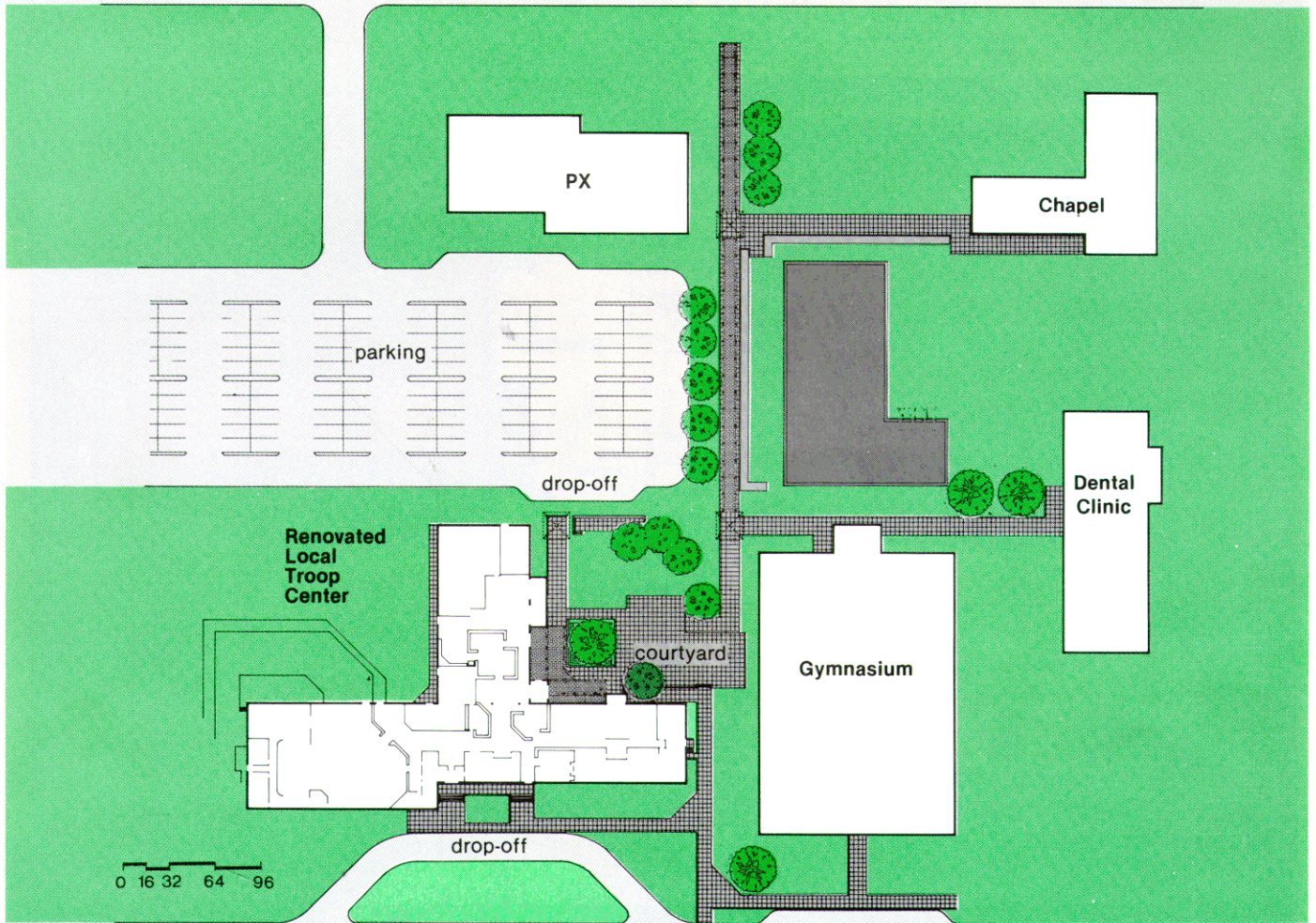


Figure 6 – 21 Site Plan

and floor levels (see section, figure 6 - 24). This openness offers good visibility among the activity spaces, providing exposure and cross-fertilization for different programs, and facilitating supervision. Circulation passes through rather than around activity spaces and thus reinforces good visibility. Enclosed areas are located at the periphery in order to enable easy surveillance.

The new main entry is located at the intersection of the two wings of the plan, providing good access to all program areas from the troop barracks, gymnasium, and the rest of the complex. Immediately inside this main entry is the central lobby surrounded by the control desk and

two lounge areas defined by low banquettes and built-in seating, all at a raised level. The control desk is centrally located and raised to provide good surveillance of all non-enclosed spaces and all entrances (the two existing entrances on the old driveway side remain). From this desk, the support staff also operates equipment/materials check-out (instruments, ITT, games). There are offices, general and instrument storage immediately accessible from behind the desk. One of the lounges is equipped with booths and tables for card games and a partial extension of the snack bar space. The other lounge has seating and an ITT literature rack

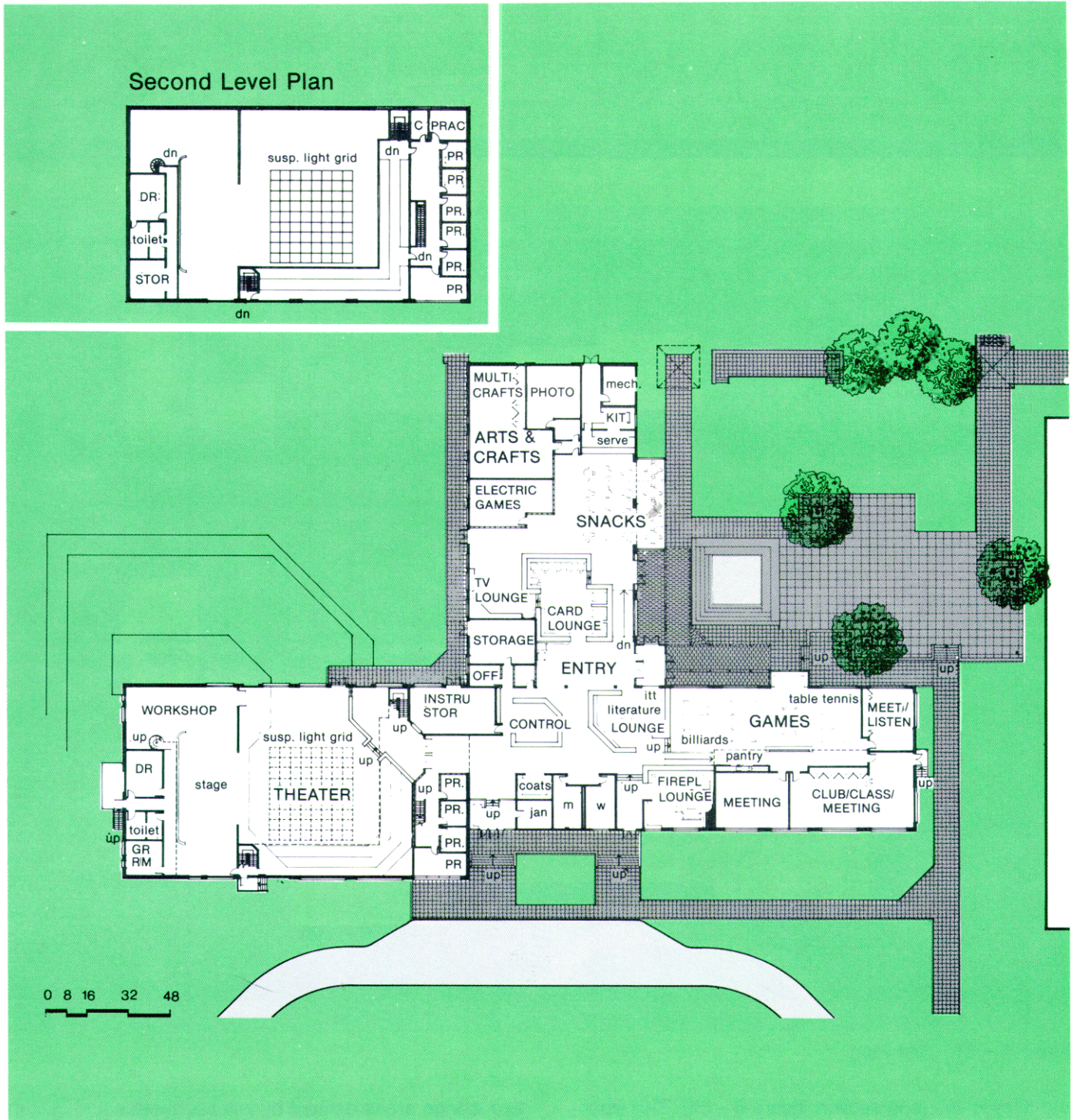


Figure 6 – 23 Plan

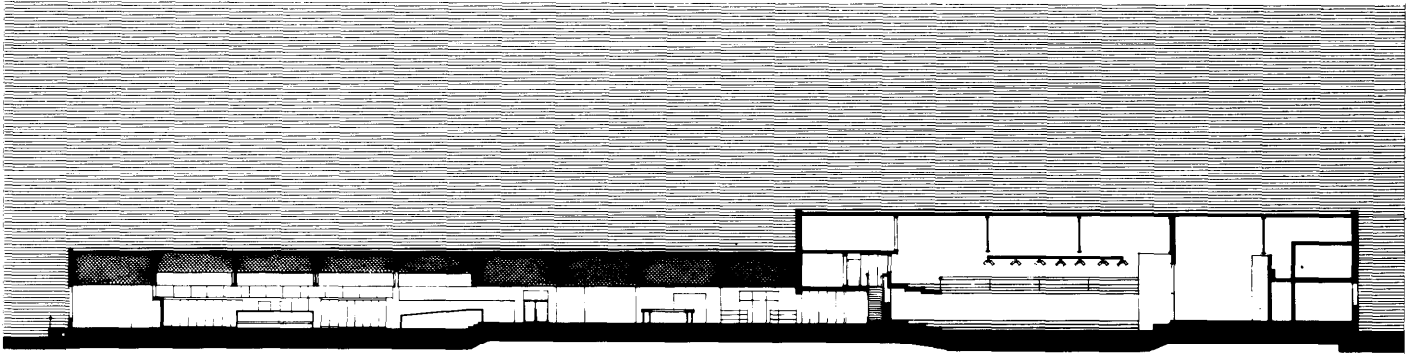


Figure 6 - 24 Fort East: Renovated Local Troop Center-Section

and information board, which acts as a buffer zone for the active games area nearby.

The two branches of the "L" are at the lower floor level, with ramped connections. One branch (see figure 6 - 23) has an active games area for billiards and table tennis under a raised coffered ceiling (see figure 6 - 24) with a greenhouse/window-seat extension, three multipurpose club/meeting rooms with high clerestory windows to light their interior areas (one equipped as a music listening room), a pantry/kitchen along the connecting corridor (for snacks and serving for functions) and an intimate lounge facing an existing fieldstone fireplace with visual and acoustic privacy provided by high banquettes, and racks for periodicals, recreational reading, and paperback trading. The other branch of the "L" includes a snack bar and kitchen run by the post exchange with a greenhouse seating space extending out into the forecourt, a recessive television lounge, a glazed but acoustically separated electronic games area, and a small general crafts shop and photography lab, entered through a shared buffer space with one wall of the crafts space glazed for observability from the snack area.

The music/performance wing functions independently and is identifiably separate from outside and in. Its entrance has doors for control and acoustical separation, but is visible from the central CAC control desk. The performance function also shares use of toilets and support facilities, and can benefit from the adjacent lounge and snack spaces. This wing includes a mainstage with cyclorama, open wings, adjacent workshops, two-level dressing area, storage and outside access; a 300 - person seating area with movable seatwagons on a flat floor to permit theatre-in-the-round or proscenium performances, and a second-level balcony taking advantage of the height of the existing ballroom space; three large, and eight small practice rooms, with glazed walls, acoustically separated from the large theatre space; and a large instrument check-out storage area, just behind and operated from the main CAC control desk, which is usable when the rest of the music/performance wing is closed.

(3) Alternative Specialized Activities. The music/performance wing of the Fort East renovated local troop center could easily be programmed for other specialized activities, if the needs of the post change. The roughly 12,000 - square-foot space could accommodate a small gymnasium, branch library, arts and crafts center, or dinner theatre. Sketch designs for these options are illustrated in Figures 6 - 25 through 6 - 28, as variants of the basic design described above. Most of the alternatives require some modifications to the consolidated part of the center, to accommodate the music practice rooms in place of either the crafts area or the meeting rooms. These designs are included to suggest the range of space-use flexibility which should be applied in considering renovation of existing structures.

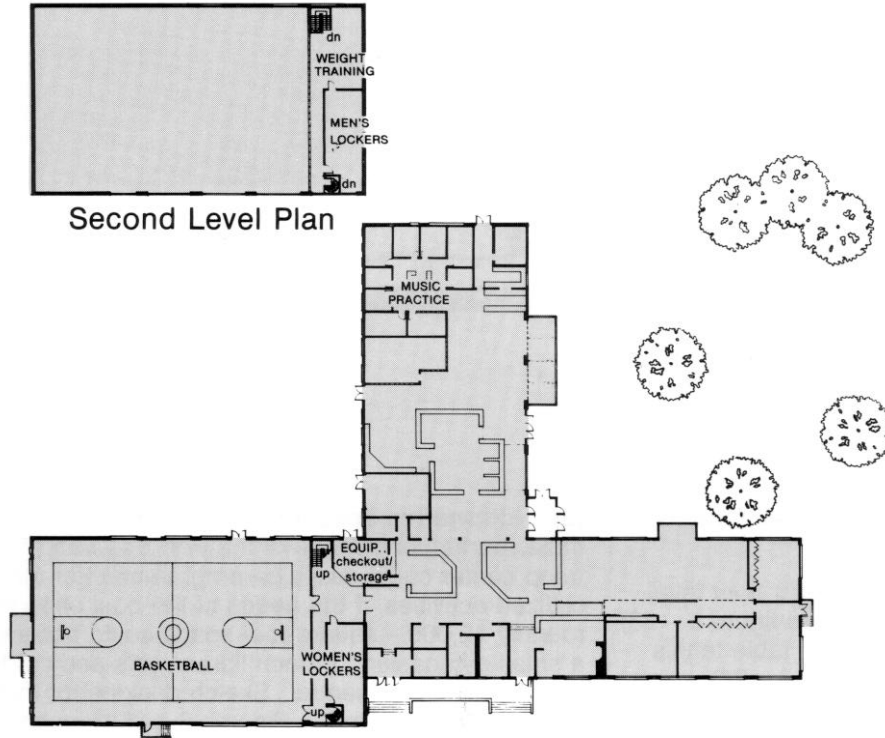


Figure 6 – 25 Fort East: Renovated Local Troop Center-Gymnasium

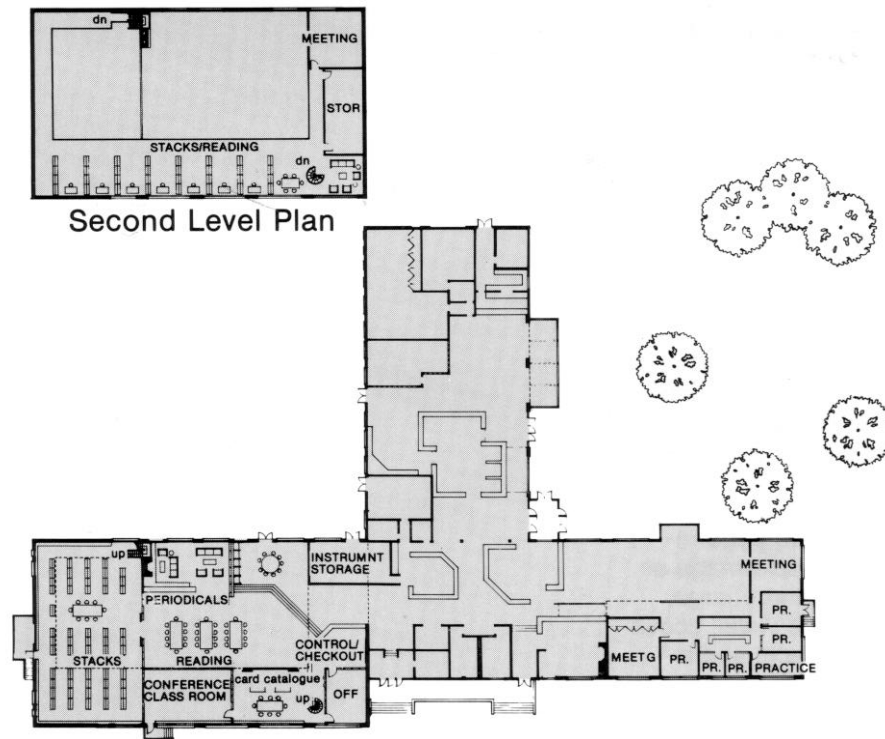


Figure 6 – 26 Fort East: Renovated Local Troop Center-Branch Library

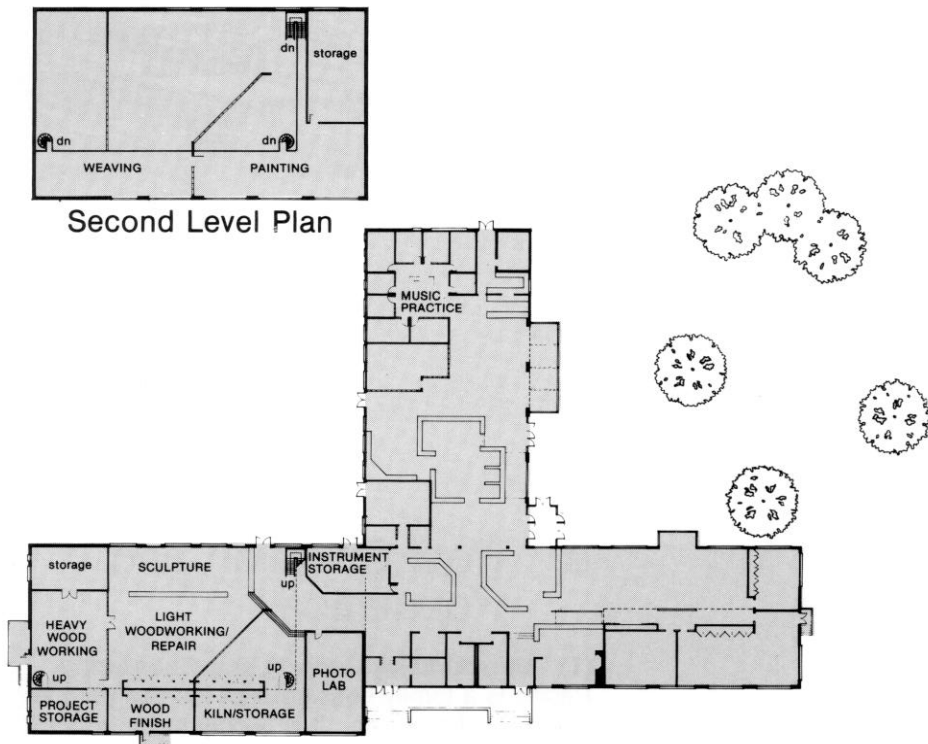


Figure 6 – 27 Fort East: Renovated Local Troop Center-Arts and Crafts

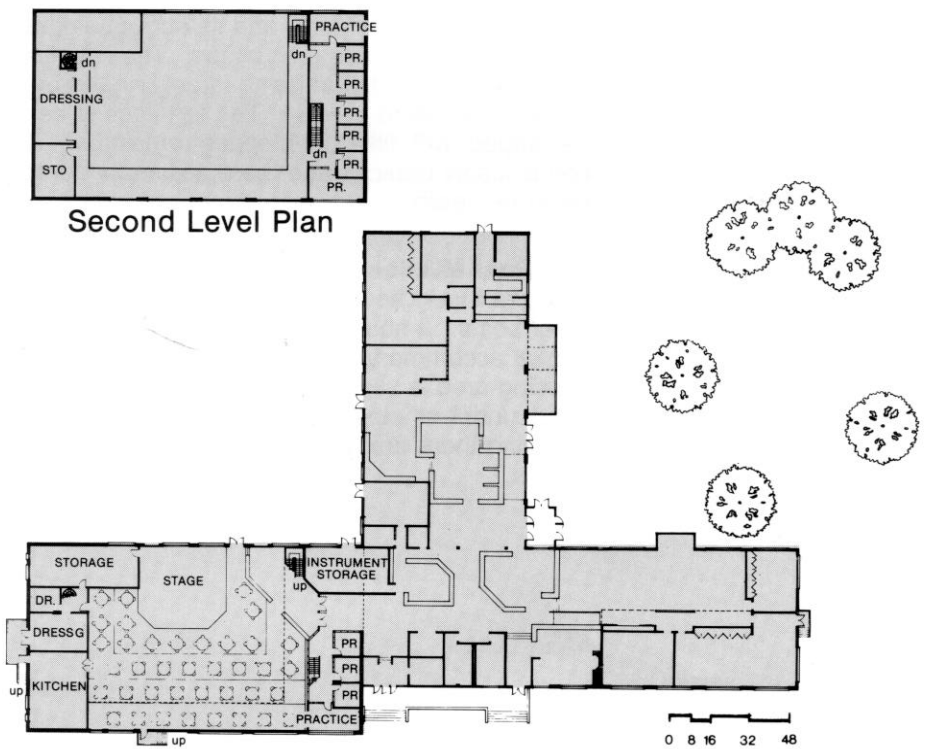
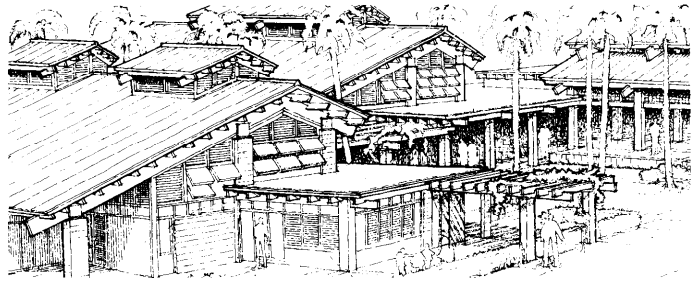


Figure 6 – 28 Fort East: Renovated Local Troop Center-Dinner Theater



6 – 5

Fort Pacific: Local Family Center

a. Post Situation and Population

(1) Surrounding Context and Geography. Fort Pacific is a family housing area located on a large island in the Pacific Ocean. It is twenty miles from the military operations and administrative areas served by the resident military population. It is over twenty miles from a major metropolitan center with any extensive recreational activities. Although the areas around Fort Pacific have seen civilian development recently, the fort itself remains isolated, with the closest commercial and service centers at least five miles away by car.

The terrain of Fort Pacific and its surrounding area is very hilly and at times precipitous. The isolation of the post is reinforced by its being largely ringed by steep slopes (see figure 6 - 29). The fort itself is densely developed, with little open space remaining. The vegetation is lushly tropical, and there are many attractive beaches nearby.

(2) Post Mission and Population. Fort Pacific is strictly a family housing area for personnel serving at other posts. It houses 2,600 families in very dense residential accommodations. The total population of the housing area is slightly over 10,000, with 5,000 dependents under nineteen years of age. The military personnel living there are almost entirely enlisted men and NCO's.

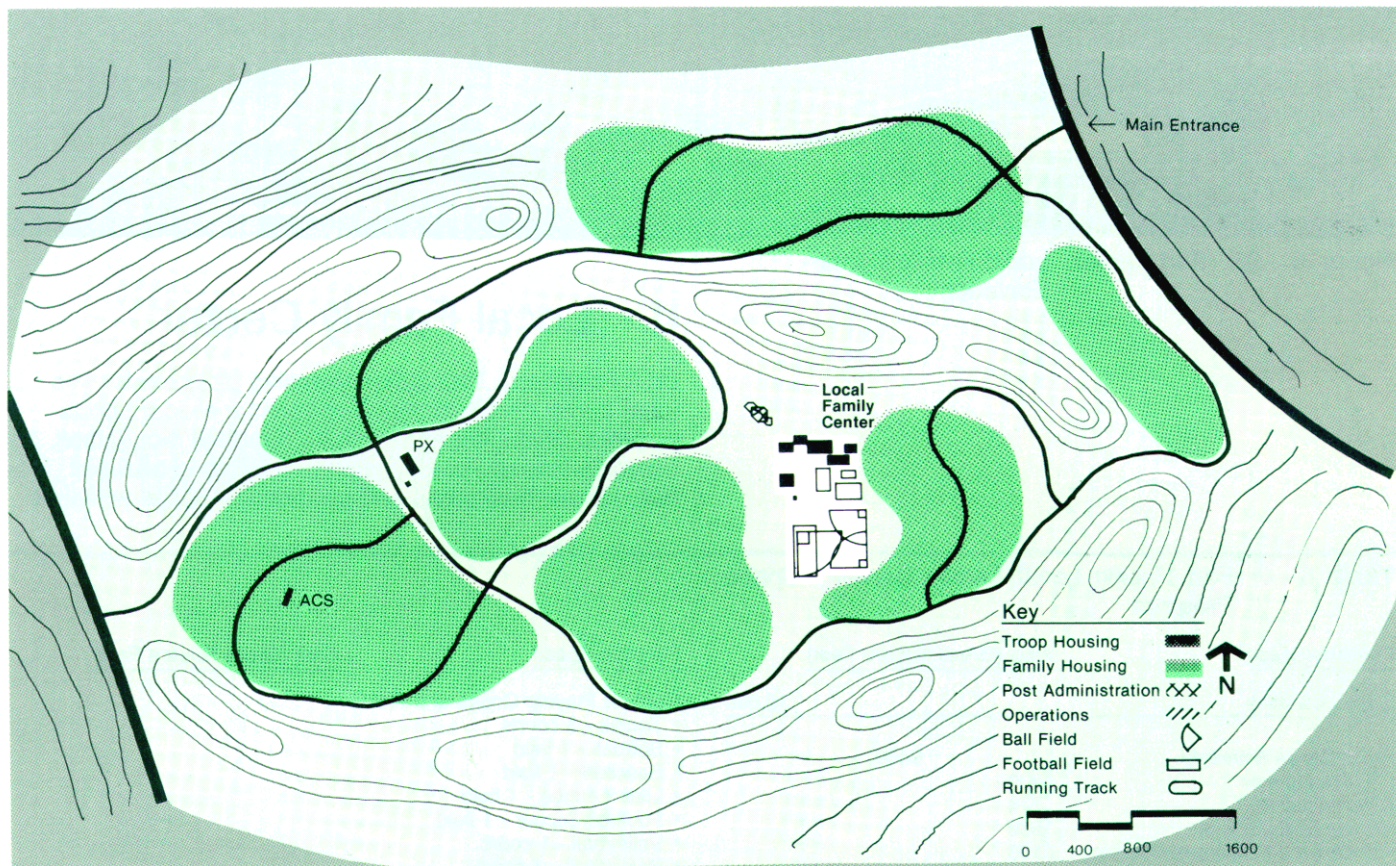


Figure 6 – 29 Fort Pacific: Community Framework Plan

b. Existing Programs and Facilities

Very little exists in the way of community programs and facilities on the post. A small post exchange (including a superette, snack bar and electronic games room) and a small Army Community Services building serve the entire population. There are limited sports fields, outdoor courts and playgrounds dispersed among the housing. Any organized programming is operated by part-time MSA staff who are based at other installations. This consists mostly of team sports activities for the soldiers and dependent youth. Even chapel services are held outside by visiting staff. The full range of family-oriented programs requires development and accommodations.

c. Community Framework

The Community Framework plan (figure 6 - 29) shows the response to this comprehensive need at Fort Pacific. A single CAC complex is located on one of the only remaining open sites available on the installation, a central location which is reasonably accessible from all parts of the housing area. This local family center accommodates all the community functions for the installation, like a main post center. The ACS functions are relocated from their old building to the center, and playing fields are developed nearby. Unfortunately, the post exchange complex remains a separate, isolated function because of existing buildings and space constraints.

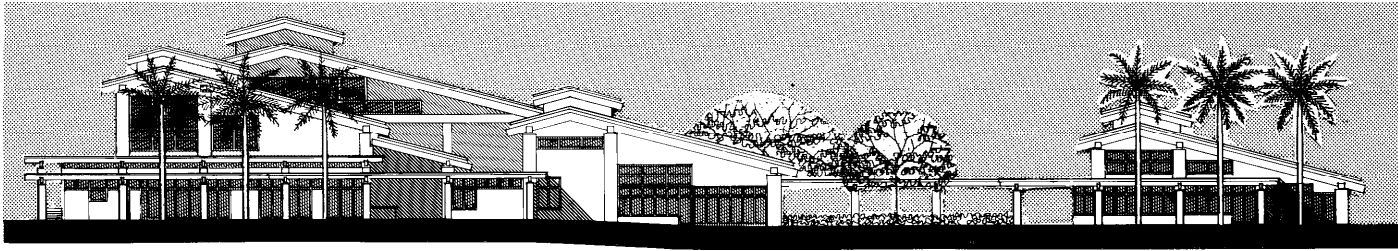


Figure 6 - 33 Fort Pacific: Local Family Center- Elevation

d. Local Family Center

(1) Program. The comprehensive program for this local family center includes spaces for indoor sports activities (including gymnasium, handball/racquetball, and exercise/fitness), outdoor sports (including baseball, football, tennis, basketball and swimming), social activities

Table 6 - 7 Fort Pacific Local Family Center: Space Program

Function-Space	Area (Gross Square Feet)	Function-Space	Area (Gross Square Feet)
Social Activities	10,690	Outdoor Playing Courts and Fields	
Small Group Activities	9400	Tennis - 3 courts	
• Active Games	4900	Softball - 1 field	
• Table Games	770	Baseball - 1 field	
• Open Multipurpose	1630	Little League - 1 field	
• Enclosed Multipurpose/Meeting	2100	Football/Soccer - 1 field	
Refreshment	1290	Volleyball - 1 court	
• Snacks/Vending	790	Basketball - 1 court	
• Kitchen/Pantry	500	Swimming Pool - 25 meter	
Arts and Crafts	2,000	Child Care	6,520
General Crafts	1640	Primary Indoor Activities	3660
Storage	360	Infants	580
Music	1,190	Toddlers	580
Practice/Listening Rooms	830	Preschoolers	1920
Instrument Checkout/Storage	360	Drop In	580
Drama	1,280	support	2860
Stage/Dressing/Storage (in Gym)	1280	Office/Reception	380
Library	2,910	Special Child Services	100
Control/Off ice	320	Staff Lounge	250
Stacks	640	Multi-Use Space	1370
Reading	910	Food Preparation	260
Meeting/Research/Conference	1040	Storage	280
Physical Fitness	21,780	Toilets	220
Multipurpose Gymnasium	9360	General Support	2,990
Handball/Racquetball	3200	Administration Offices	1170
Exercise & Storage	2210	Control Center/Storage	600
Weights/Fitness	1440	Maintenance	150
Support	5570	Toilets	730
• Trainer/Lifeguard/ First Aid	960	General Storage	340
• Lockers	2200		
• Showers	300		
• Toilets	300		
• Sauna	250		
• Laundry	300		
• Equipment Checkout/Control	540		
• Outdoor Equipment Storage	720		
		Total	49,360

(including lounging, snacks, games, table tennis, pool, clubs, meetings and other events), music practice and simple performances (and other events that can be accommodated in a multipurpose gym), branch library, child care (full day, part day and hourly, and offices for post administration, chaplain as well as CAC and MSA program operations. The space program for the Fort Pacific local family center is listed in table 6 - 7.

(2) Design Solution. The design response to this extensive program is a building complex composed of a series of separate pavilions distributed on the site. The buildings are connected by an organized pattern of sheltered outdoor pathways (see plans, figures 6 - 30 and 6 - 32). This is designed to provide the maximum program accommodation for the family center, as economical and flexible as possible, with maximum operation by non-specialist staff. It is based on the following concepts:

- Separate pavilions, with a greater perimeter to provide maximum openness for cooling by natural ventilation. Walls are left open as much as possible, except where privacy and security needs override.
- The pattern of separate pavilions, or huts, fits with the traditional local architectural style (see elevation, figure 6 - 33).
- Maximum use of outdoor circulation paths is appropriate, given the local climate, and is most efficient in use of built space.
- The pavilions are arranged to create an enclosure for a terraced amphitheatre, for outside activities, at the center of the complex.
- Individual pavilions are designed to permit flexible, multiple uses and operation from different control points. For example, the multipurpose gymnasium incorporates a stage for performances and other events. It can be operated either by support staff from the central control

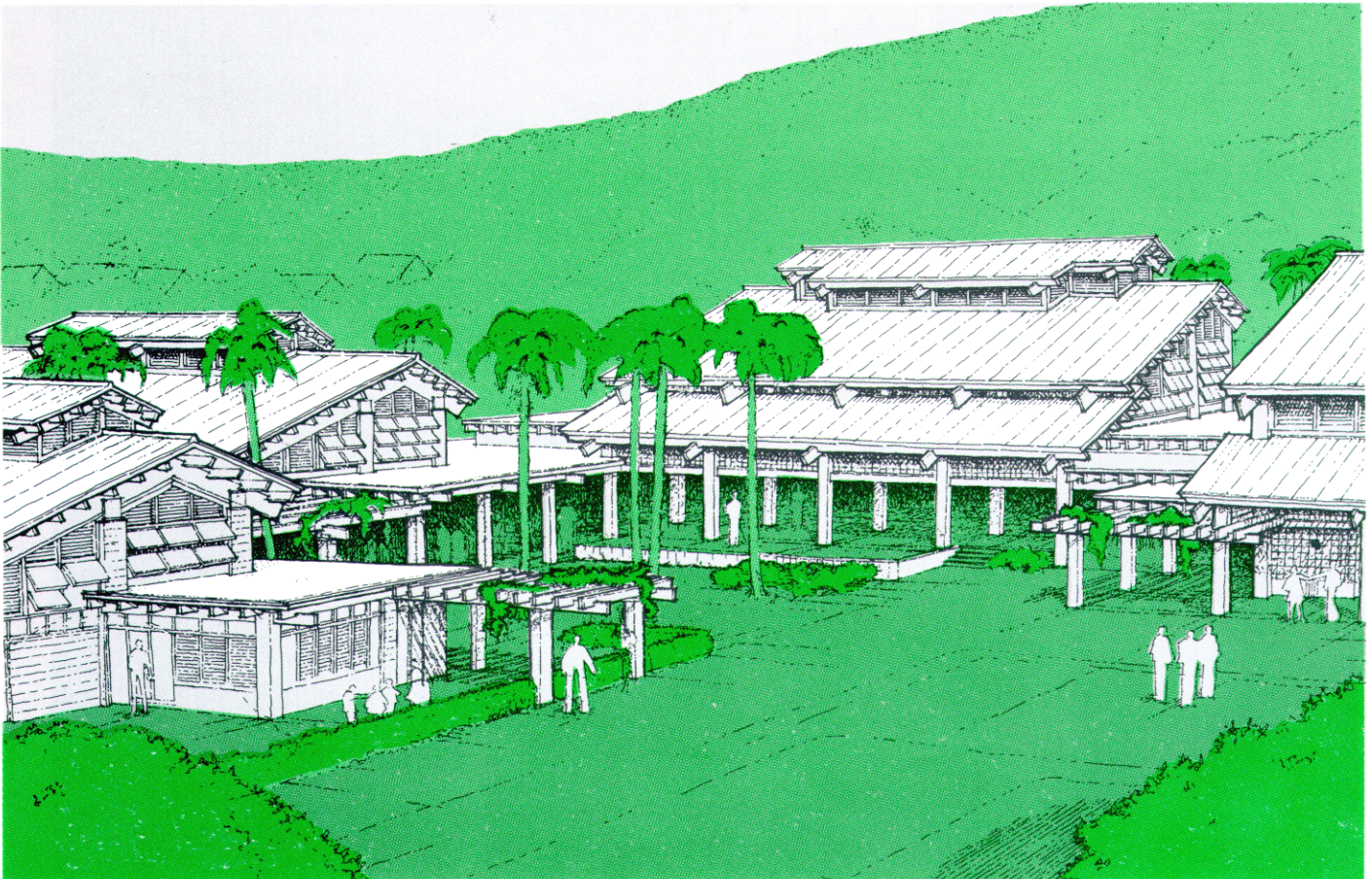


Figure 6 - 31 Fort Pacific: Local Family Center-
Perspective

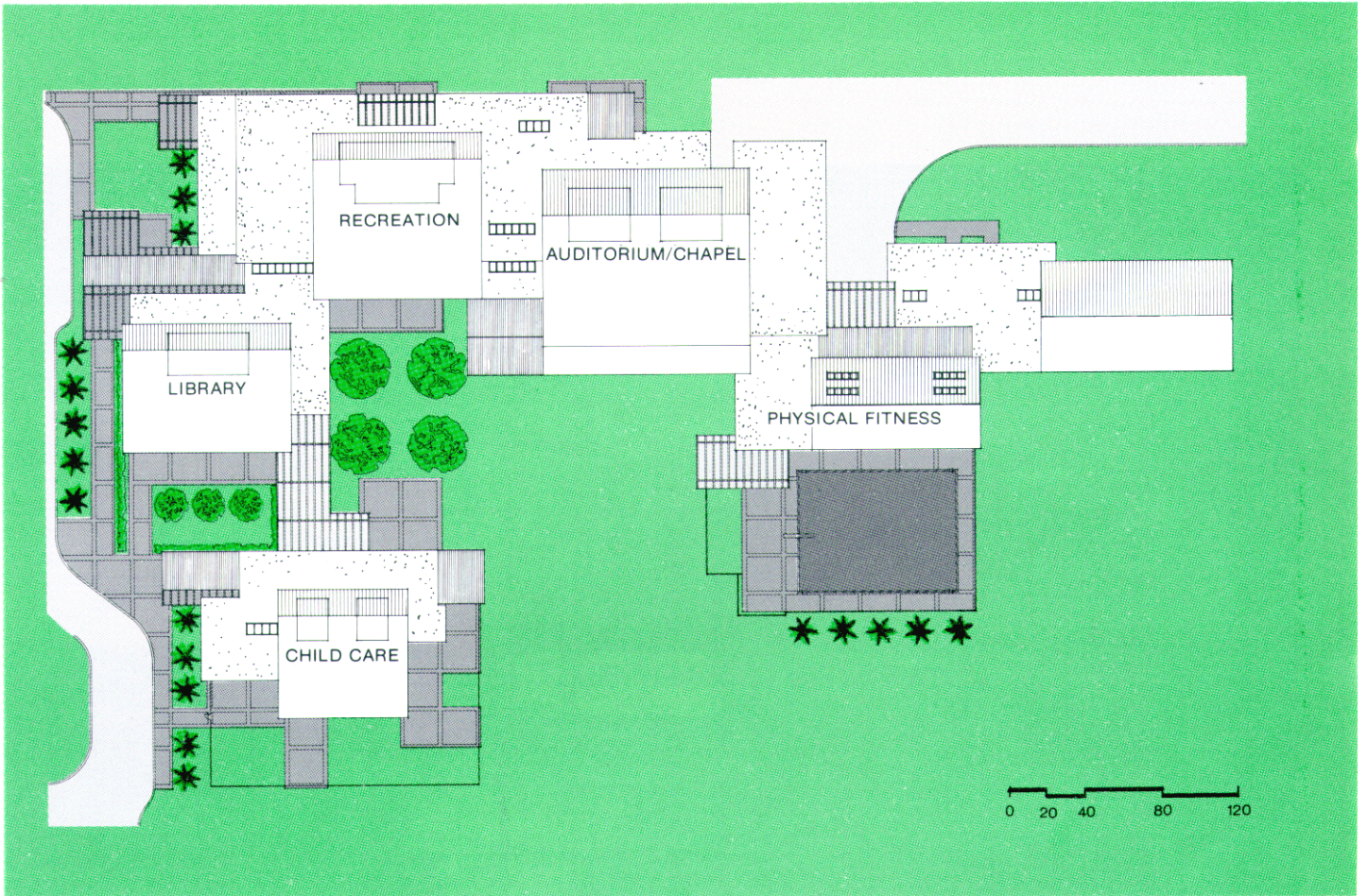


Figure 6 – 30 Fort Pacific: Local Family Center-Site Plan

Fort Pacific
Local Family Center

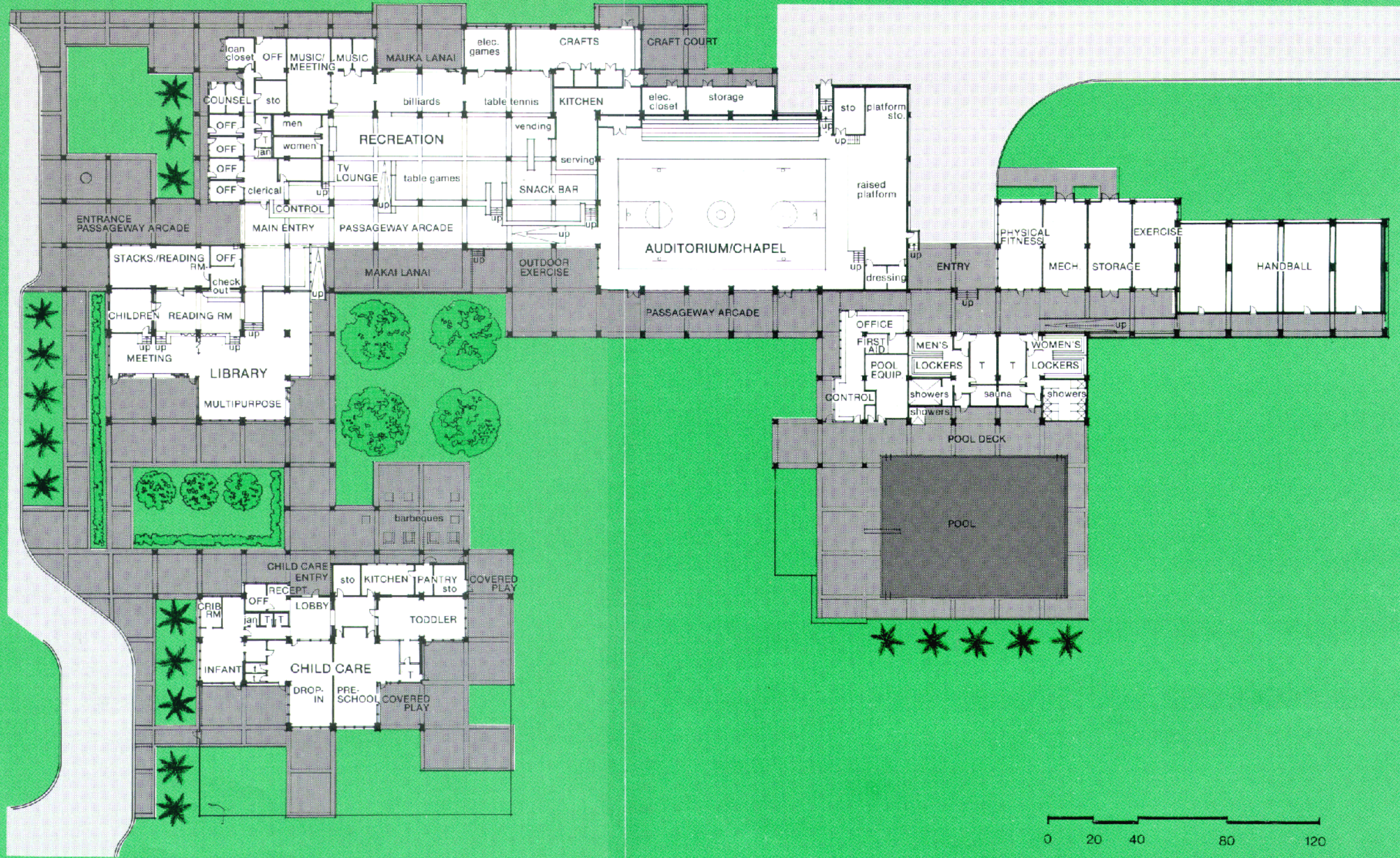


Figure 6-32 Fort Pacific: Local Family Center-Plan

desk, or by visiting specialist sports staff from the sports off ice/support pavilion. The multipurpose meeting spaces in the library pavilion can be used for library functions, general meetings, ACS conferences, recreation activities, clubs and other special events.

- Heavy timber construction is used throughout, with high “floating” roofs for maximum ventilation. Walls are light wood infill with movable rolling or swinging panels, for maximum openness.
- The high, distinctive roof on each pavilion makes it easier to distinguish buildings and functions. However, the similarity of building forms tend to unify the complex, despite the different elements (see figure 6 - 31).

(3) Building Organization. The local family center is located on the limited available site, as close as possible to the steep bluff which rises behind it (see site plan, figure 6 - 30, and elevation, 6 - 33). This location offers the best bearing conditions. The foot of the bluff should also be a favorable location for natural ventilation. The playing fields are located in the lowest, flattest part of the site, below the buildings. The slope of the site also provides a grand overlook from the pavilions and the terrace to the surrounding hills.

The sports area consists of three pavilions at one end of the complex, the multipurpose gymnasium, the office/lockers/exercise building, and the handball/racquetball building. The lockers and support spaces are central, and serve the gym, racquetball courts, outdoor pool, tennis and sports fields, and a service court behind the gym which doubles as an outdoor basketball court. The gymnasium and other sports facilities can be operated for structured programs by visiting sports specialists from the sports office pavilion. The gymnasium can still function for more casual sports activities, as part of the recreation/multipurpose programming complex, under the supervision of support staff from the main control desk (see plan, figure 6 - 32).

The social activities/library/multipurpose gymnasium area also forms a complex of three pavilions. The social activities spaces (accommodating billiards, games, multipurpose programming, small crafts and music practice) overlook the table tennis area and the gymnasium, which in turn, overlook the outdoor terrace, sloping grassy amphitheatre, and playing fields. The gymnasium doubles as a performance hall (with seats stored under the stage) for music, theatre, movies, chapel and other events. The stage can be screened off for dance and ballet classes. The branch library is designed so the reading room can be supervised by the main CAC control desk when no librarian is present. The adjacent

meeting rooms can operate as open or closed spaces, which are divisible for smaller functions such as library meetings, classes, clubs, ACS counseling, or special functions.

The offices in the center are designed for multiple uses, because of the lack of other facilities in Fort Pacific. They accommodate the regular CAC administrative and program staff, and specialists visiting for specialized program operation. They also house the post commander, chaplain (until a future chapel is built adjacent to the center (see site plan, figure 6 - 30) and ACS staff. Separate outside access for the offices permits after-hours use.

Child care is found in a separate pavilion, distinct from the recreation and sports areas (see figure 6 - 32). It has convenient, separate vehicular access and drop-off, but is close enough along the sheltered pathways for parents using other functions. The child care center has separate spaces for infants, toddlers and pre-schoolers, as well as hourly care distinct from full day. Immediately adjacent to the pavilion are protected outdoor play areas for the different age groups.



Fort Sands: Main Post Center and Family Center

a. Post Situation and Population

(1) Surrounding Context. Fort Sands is located in an isolated desert area of the Western United States. The terrain is flat, with sparse vegetation and rocky soil. Hot winds make unprotected outdoor areas uncomfortable. Distant views of mountains to the north provide a welcomed relief to the landscape. The nearest town is forty miles away along a barren road, and provides only minor services to the post population.

(2) Post Mission and Population. Fort Sands is a training facility for desert warfare. Large contingents of troops visit from other posts, and spend weeks at a time away from the Fort Sands cantonment, on maneuvers in the installation's vast training grounds. The population of the post is rapidly increasing to the projected permanent party strength of 3,200. Housing units for 1,000 families are anticipated on post, which will leave roughly 1,000 more military families living off-post, but still dependent on the post for many services. Of the 3,000 children among these families, on-post and off, approximately 30% are of school age and 70% younger.

(3) Geography. As one enters along the main road from the south, the general organization is apparent. Post headquarters and troop housing are to the right, with operations and support areas to the east and the north. Family housing areas, including trailer sites are to the left, with two elementary schools and a future high school sited (see figure 6 - 34). However, the existing community and service facilities are dispersed, creating no sense of a center for the installation.

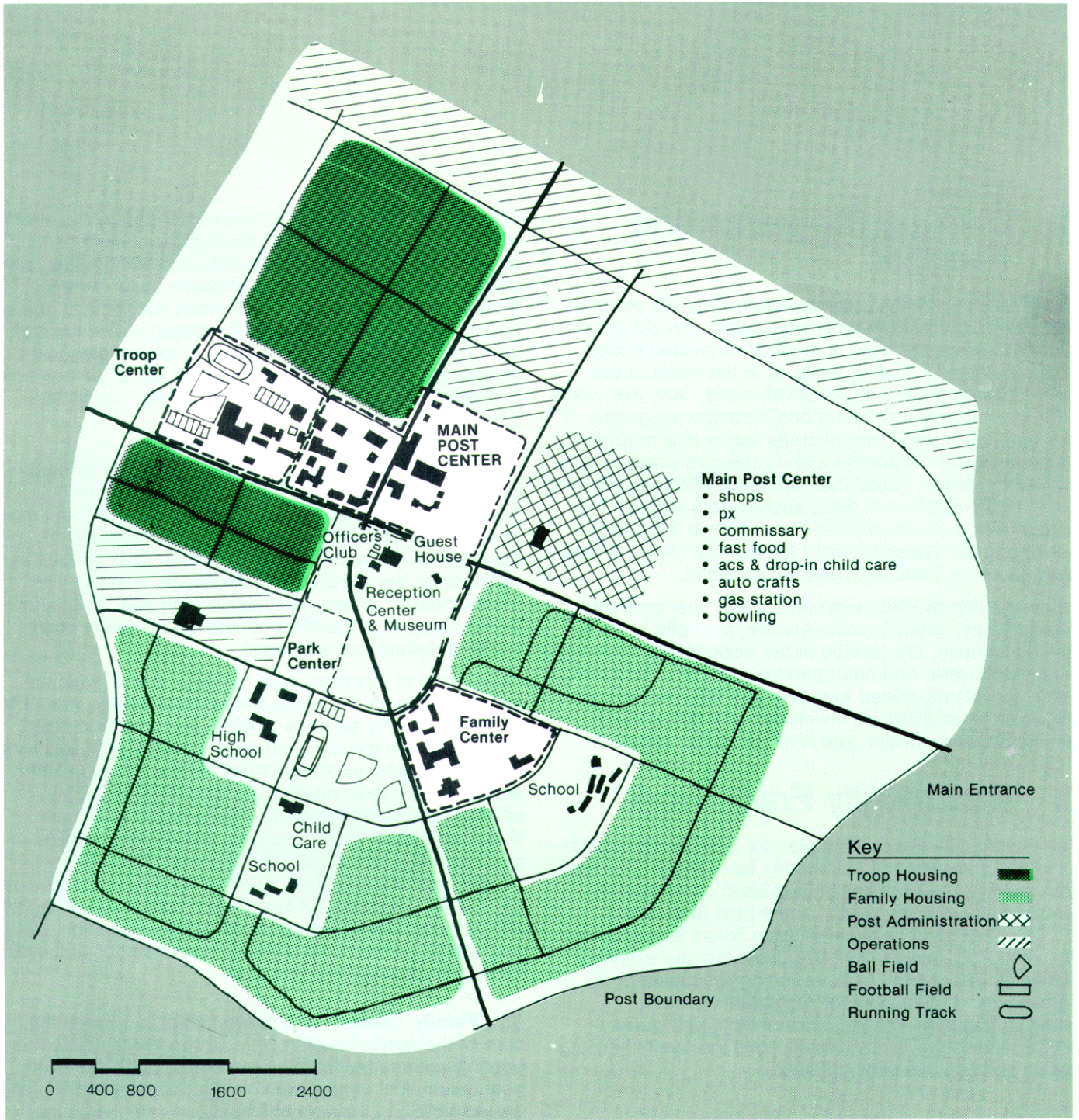


Figure 6 – 34 Fort Sands: Community Framework Plan

b. Existing Programs and Facilities

Facilities for the MSA program are inadequate even for the present permanent party population. An old gymnasium with a weight-room, a recently-renovated outdoor pool, and nearby playing fields, is in the midst of the troop-billeting areas and is actively used. Arts and crafts offer lapidary, wood-working and ceramics programs. It has an under-sized general crafts space in a renovated found structure. A service club is being renovated for a temporary library. Child care operates infant, toddler and pre-school programs in three small rooms recently converted from a community service center in the family housing area. No specialized facilities for music, drama, recreation nor youth activities are provided.

Other existing facilities such as a small post exchange, bowling alley, chapel, movie theatre, post office, bank, and gas station, are located in the troop billets, mixed in with warehouses and other service activities. However, these are not organized to create any coherent focus for the post. In addition, an enlisted men's club is being renovated, and officers' and NCO clubs are planned.

c. Community Framework

The Community Framework plan for Fort Sands intends to establish a sense of community by clustering the facilities and developing a continuous band of community functions through the center of the post (see figure 6 - 34). This band consists of three linked elements, 1) the Main Post Center, including troop morale support center, 2) The central park, including swimming pool, barbecue and other outdoor recreation facilities, museum/reception center, officers' club, and guest house, and 3) the family center, amid the family housing areas, schools and playing fields.

The centers are planned as heavily landscaped clusters of buildings, enclosing outdoor courtyards, with parking at the periphery. Buildings are sited close together, preferably with outdoor space dimensions of no more than thirty feet. Courtyards and pedestrian connections are to be intensively landscaped, with covered walkways and perforated masonry block screens to create pleasant, shaded places. These developments are to be achieved by fitting new facilities among the existing permanent community buildings,

(1) Main Post Center. The Fort Sands center combines a central cluster of commercial function with a troop morale support center. It is located along the main street of the post, adjacent to the post headquarters and central park in the troop billeting areas. It organizes and builds upon the existing post exchange, bowling alley, movie theatre, chapel, gymnasium and pool, to create a dense complex of facilities connected by shady courtyards and sheltered walkways.

At one end of this main post center is the "downtown" commercial area, including a new commissary, main PX, Army community services building and fast food outlet integrated with the movie theatre, bowling alley and renovated small post exchange retail stores. In the middle area are the moral support and community facilities which serve the entire post. These include a new library/education center, multiple crafts center, MSA administration, the existing bank, post office, and chapel/religious education complex. At the other end are the facilities primarily for troop use, multi-purpose recreation building, outdoor pool, combination recreation, music and drama center, new physical fitness center and indoor pool, with playing fields beyond.

(2) Family Center. The family center is sited at the core of the family housing area, at the intersection of a band of community facilities running through the Main post center and central park, and a band connecting all the schools and their playing fields. A family-oriented complex of shopping, family, morale support and child care functions is planned for this site, as presented in paragraph d, below.

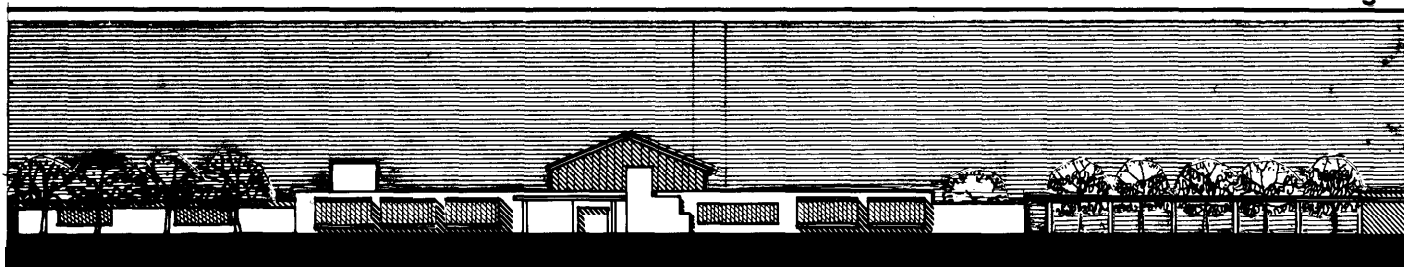


Table 6 - 8 Fort Sands Family Center: Space Program

Function-Space	Area (Gross Square Feet)	
1. Family Morale Support		
Social Activities		8,080
Small Group Activities		5700
• Active Games	2890	
• Electronic Games	180	
• Television Lounge	440	
• Lounge	740	
• Meeting/Multipurpose	1450	
Administration		610
• Offices	260	
• Control	350	
Refreshment		1770
• Snack Bar	1535	
• Kitchen	235	
Arts and Crafts		1,890
General Crafts	1535	
Photography	355	
Music and Drama		7,250
Multipurpose Auditorium	6370	
Music Practice/Listening Room	880	
Physical Fitness		1,950
Exercise/Meeting Room	1650	
Storage and Control (incl. for crafts)	300	
General Support		1,290
Maintenance/Mechanical	470	
Toilets	470	
General Storage	350	
	Total	20,460
2. Child Care		
Primary Indoor Activities		9,590
Infants	2800	
Toddlers	3410	
Preschoolers	2950	
School Age	430	
Support		1,450
Administration and Staff Lounge	720	
Reception	280	
Food Preparation and Storage	450	
	Total	11,040
3. Convenience Shopping		
Branch PX		4,600
Cleaner/Laundry		2,400
Deli		2,920
	Total	9,920

d. Family Center

(1) Program. This family center is programmed to serve the residents of all the 1,000 family housing units on Fort Sands. It consists of three major components, the family morale support facility, child care center, and convenience shopping center. A detailed program of functional spaces and areas is presented in table 6 - 8.

(2) Design Solution. The design of this family center (see figures 6 - 36 and 6 -37) reflects the following concepts:

- The three components of the center - family morale support, child care, and shopping - are built as three identifiably separate but connected structures. Each can function separately, with its own entrance, parking and drop-off areas.
- The buildings are packed together closely on the site with all elements connected by covered walkways and space-defining walls, defining enclosed, sheltered outdoor spaces.
- Each of the three building components define and enclose their own outdoor courtyard or courtyards, each of different scale and landscaping character, appropriate to adjacent functions.

(a) Family Morale Support Facility. This is located in the center of the site, connected to both the child care center and convenience shopping center. Surrounding the main entrance are all the social activities spaces (games, snacks and lounge areas) which are interconnected. They are visible to each other as well as from the main entrance and control desk. To the right are the controlled activities, meeting room, music practice, and related storage. From all the social activities spaces, as well as the control desk, there are good views into the multipurpose auditorium, which is at a lower level. Circulation through the edge of this auditorium provides access to the exercise/meeting room, general crafts and darkroom areas. These latter have their own control areas and their own external access leading to the outdoor pools. In this way, they can be operated at different times than the rest of the facility. The snack bar and central circulation open onto a large landscaped courtyard, also served by the deli. On the other side, the multipurpose auditorium opens out onto an outdoor performance area, backed by shade trees which are an extension of the child care outdoor space.

(b) Child Care Center. The child care center is on the housing end of the site, with its own drop-off, parking and entrance. The facility consists of four blocks, three of which provide separate pairs of classrooms for infants, toddlers and preschoolers. Each block has its own toilet and cloaking spaces, and enclosed outdoor play yard. A room for children brought on a hourly basis is adjacent to the main entrance, sharing exterior play space with the preschoolers. A separate space is provided for school-age children who help in the child care operation, with their own entrance toward the central family facility. The fourth block of this building is next to the main entrance, and accommodates administration, staff lounge and food preparation areas.

(c) Convenience Shopping Center. Located near the main post center, this retail complex provides all family-oriented local convenience services. A branch post exchange, laundry/dry cleaner and deli frame a small courtyard with direct access to parking. The deli also opens out onto the large landscaped courtyard extending to the family morale support building, with connecting covered walkways and tables. This space serves users of the deli, the snack bar and auditorium.

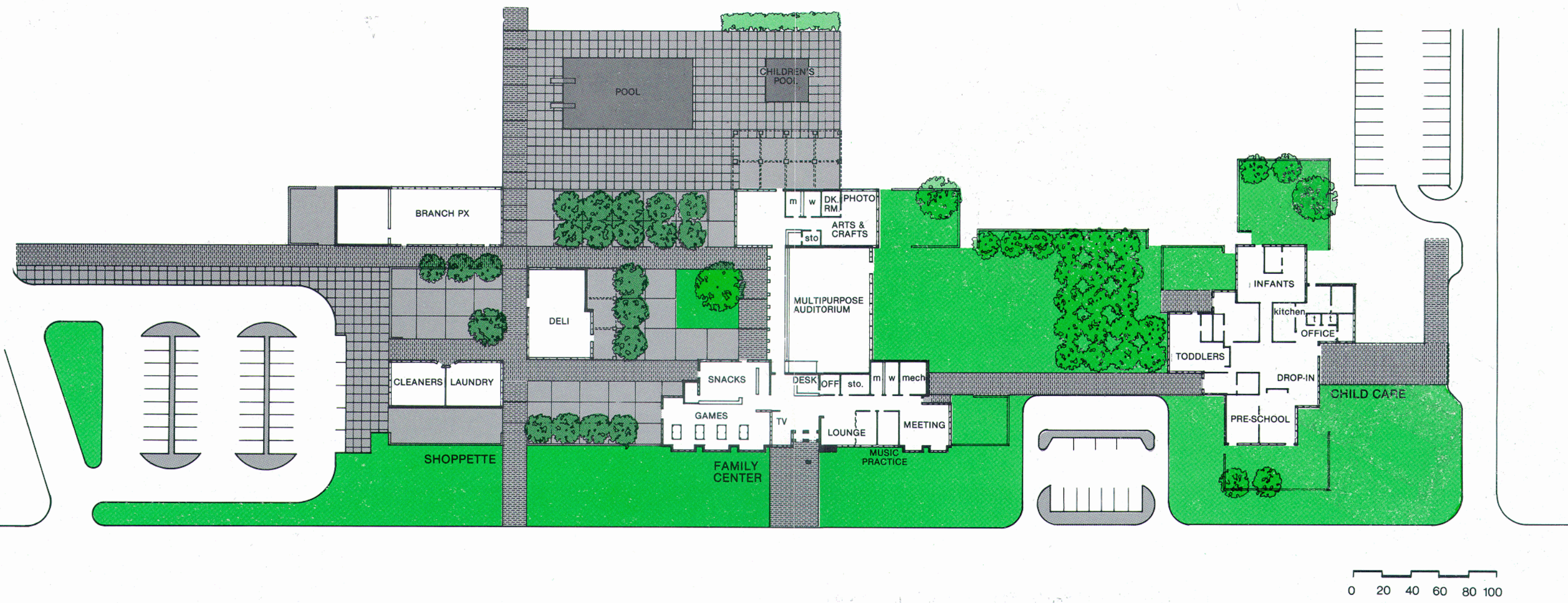


Figure 6 – 37 Fort Sands: Family Center Plan

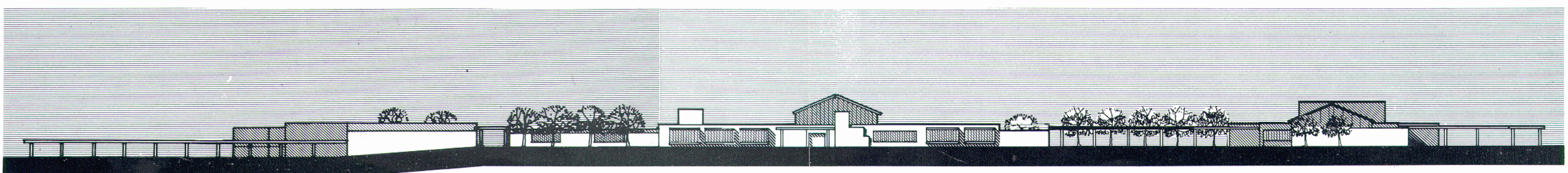


Figure 6 – 35 Fort Sands: Family Center-Elevation

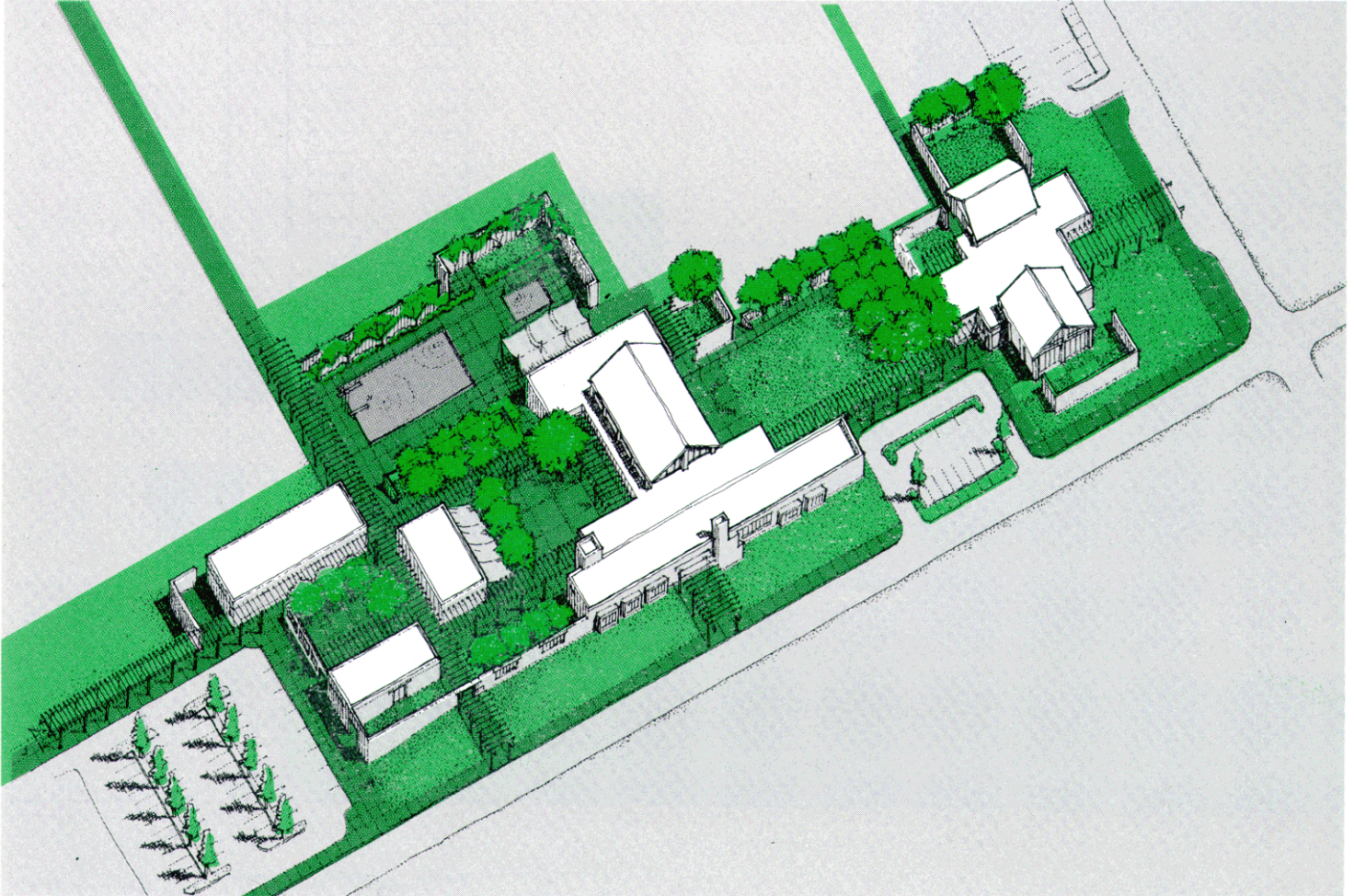
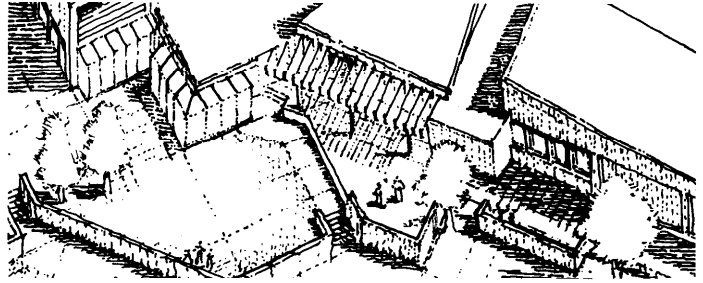


Figure 6 – 36 Fort Sands: Family Center-Isometric View

Fort Sands
Family Center



Fort Caribe: Community Activity and Bowling Center

a. Post Situation and Population

(1) Surrounding Context. Fort Caribe is located on the fringe of a metropolitan area, in a semitropical environment. Although the urban center is barely twenty minutes away, its facilities provide only minor service to the post population, because of social and interest differences. The terrain is generally flat, with minor hills around the post. The vegetation is lush. The climate is moderate, with constant warm temperatures and high humidity, and frequent rain-showers.

(2) Post Mission and Population. The post mission is one of readiness: support to the National Guard, equipment maintenance, supply warehousing and recruitment. It is a small post with 800 military personnel, including 360 families, housed on post. A high proportion of dependent children, roughly 700, brings the total post population over 1800. Fort Caribe's facilities also serve a substantial population of National Guardsmen, Army reserves, and retired military personnel in the area.

(3) Geography. The layout of Fort Caribe is compact and well organized (see figure 6 - 38). The main road enters the post at the northwest edge and passes the major operations area on the left, before coming to the post administration headquarters at the geographic center of the post. Extensive family housing areas, including elementary and high schools, encompass a continuous band along the southern rim of the post. Troop housing is clearly separated, in one area across the road from the post headquarters and near the operations area. A complex of post exchange, commissary, general education center with library, and chapel exists to the west of the post headquarters. An officers' club, joint enlisted men's/NCO club, movie theatre, outdoor multiple sports courts, and nine-hole golf course are to the east of the headquarters.

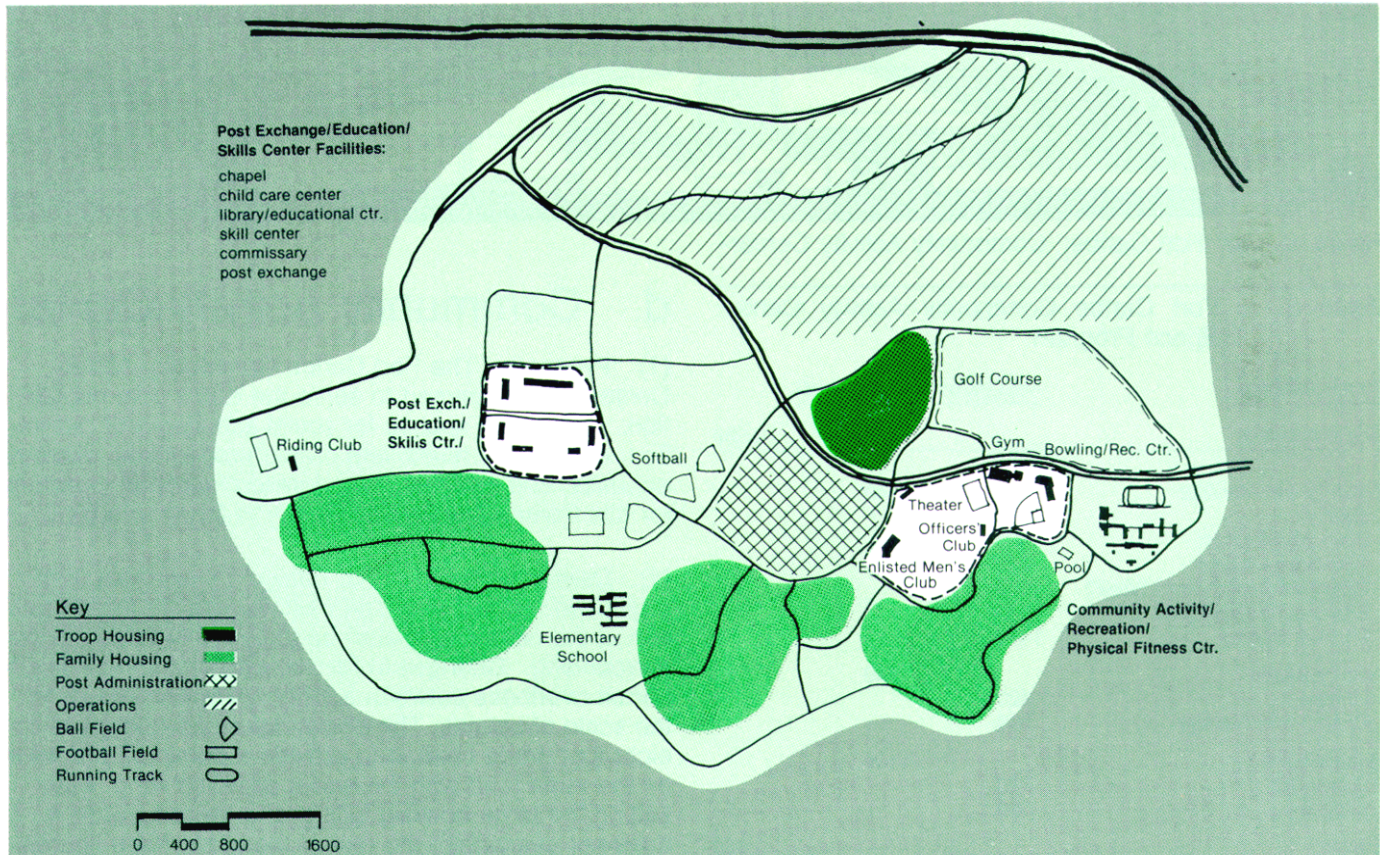


Figure 6 – 38 Fort Caribe: Community Framework Plan

b. Existing Programs and Facilities

The MSA and community programs at Fort Caribe operate in severely limited facilities. The golf course is well maintained and there is a riding club with arena and stables, but there is no gymnasium. There is a small weight lifting room and a karate club in “found” space, some softball fields, multipurpose basketball and racquetball courts. Arts and crafts as well as youth activities occupy inadequate buildings converted from other functions, located near the post exchange. The library and general education center are in the same complex. There is no child care at present. The officers’ club is large and recently constructed. The joint enlisted men’s/NCO club is adequate.

c. Community Framework

The Community Framework plan for Fort Caribe (figure 6 - 38) projects a full, self-sustaining program of community services and facilities for the installation. It is organized into two main centers of activity, a community activity/recreation/physical fitness center that is east of the post headquarters, and a post exchange/education/skills center on the west. Ideally, all these functions should be located in one complex for a post this size. However, this

layout is constrained by existing facility locations, master-plan intentions, and the limited space available.

The MSA and community facilities are planned to provide a combined troop and family oriented program. No facilities are dedicated for only one or the other group. Because of the small size of the post, and the small single soldier population, this combination is expected to be quite workable by time-scheduling specific activities as needed.

The community activity/recreation/physical fitness center is located near the existing sports and social facilities, adjacent to the golf course and high school. A Community Activity Center with extensive social activity and multipurpose meeting spaces and a bowling center is planned in the vicinity of existing clubs and theaters. Also planned nearby is a future gymnasium, additional playing fields and courts. This complex is intended to provide social recreation, athletic, and minor music and drama production activities for the entire post population, including youth activities.

The separate post exchange/education/skills center contributes to the existing complex of post exchange, chapel, and general education center/library. It replaces the other older buildings in this area with a new commissary, a bank, a child care center, and a new skill development center, with complete facilities for multiple art and auto crafts.

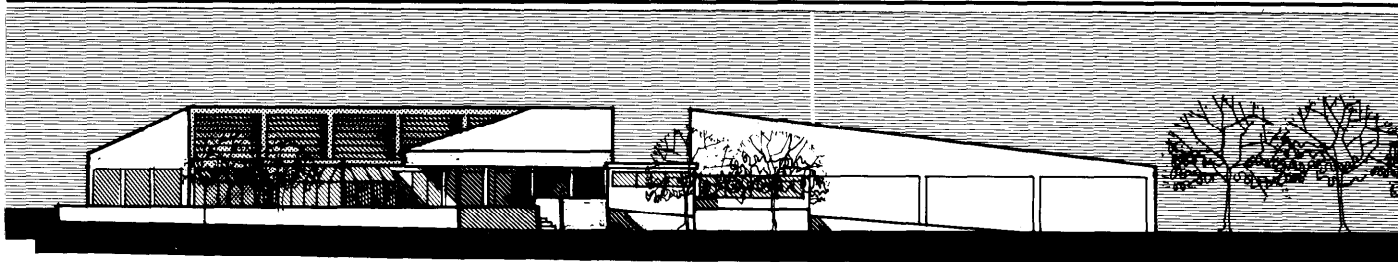


Figure 6 - 39 Fort Caribe: Community Activity Center-

Table 6 - 9 Fort Caribe Community Activity Center: Space Program

Function-Space	Area (Gross Square Feet)	
Social Activities		8,580
Small Group Activities	6740	
· Games	1860	
· Electronic Games	400	
· Television Lounge	720	
· Open Multipurpose (with "Stage")	1300	
· Enclosed Multipurpose	980	
· Meeting Rooms	1480	
Administration	740	
· Offices	420	
· Control and Storage	320	
Refreshment	1100	
· Snack Bar	780	
· Kitchen	320	
Bowling		3,400
General Support		1,120
Toilets	320	
Maintenance/Storage/Mechanical	800	
	Total	13,100

d. Community Activity Center

(1) Program. The Fort Caribe Community Activity Center is programmed to serve the entire post population. It provides spaces for social activities and recreation, small scale music and drama productions, exercise activities, and bowling. The detailed functional program for this Community Activity Center is found in table 6 - 9.

(2) Design Solution. The design solution is a tightly organized building with open activity spaces and circulation at the center, and enclosed special function spaces surrounding. Changes in floor elevation and roof heights permit overlooks between activity areas and variety in the scale of spaces. The design takes advantage of an eight-foot grade change to provide a dominant presence on the main road with the social activities wing, while setting the large bowling facility at a lower level so it does not overwhelm the rest of the center (see figures 6-40 and 6-41).

The building is sited adjacent to the main post road, overlooking an existing softball field on the lower part of the site. Next to the Community Activity Center is the planned gymnasium, with grandstand and additional sports fields. Linking these is a terrace with views over the sports fields and the hollow beyond, which acts as the central focus for the community area. This terrace is directly accessible from the open multipurpose and games spaces of the Community Activity Center, and is designed for outdoor activities and performances.

The center consists of two wings joined by the entrance and open activity spaces. The dominant wing visible from the main road contains the enclosed meeting and multipurpose spaces, television lounge, office and control. Next to this is the main entrance, which opens onto a series of spaces. The lobby, snack bar and general circulation, surround and overlook the games room and open multipurpose space at the lower level. Next to the open multipurpose space, with its high ceiling, the raised circulation area can double as a stage for small performances. Extending beyond the snack area is the other wing of the center, including the kitchen and support facilities, electronic games, and four lane bowling center at a lower level, which can be viewed from the spectator and lounge area above.

The Community Activity Center is designed to be built as a single story, concrete frame structure. High sloping roofs, with clerestory windows, define the three major building volumes - bowling, open multipurpose space, and meeting room wing - and provide indirect natural lighting. The building layout incorporating low perforated-block walls encourages natural cross-ventilation.

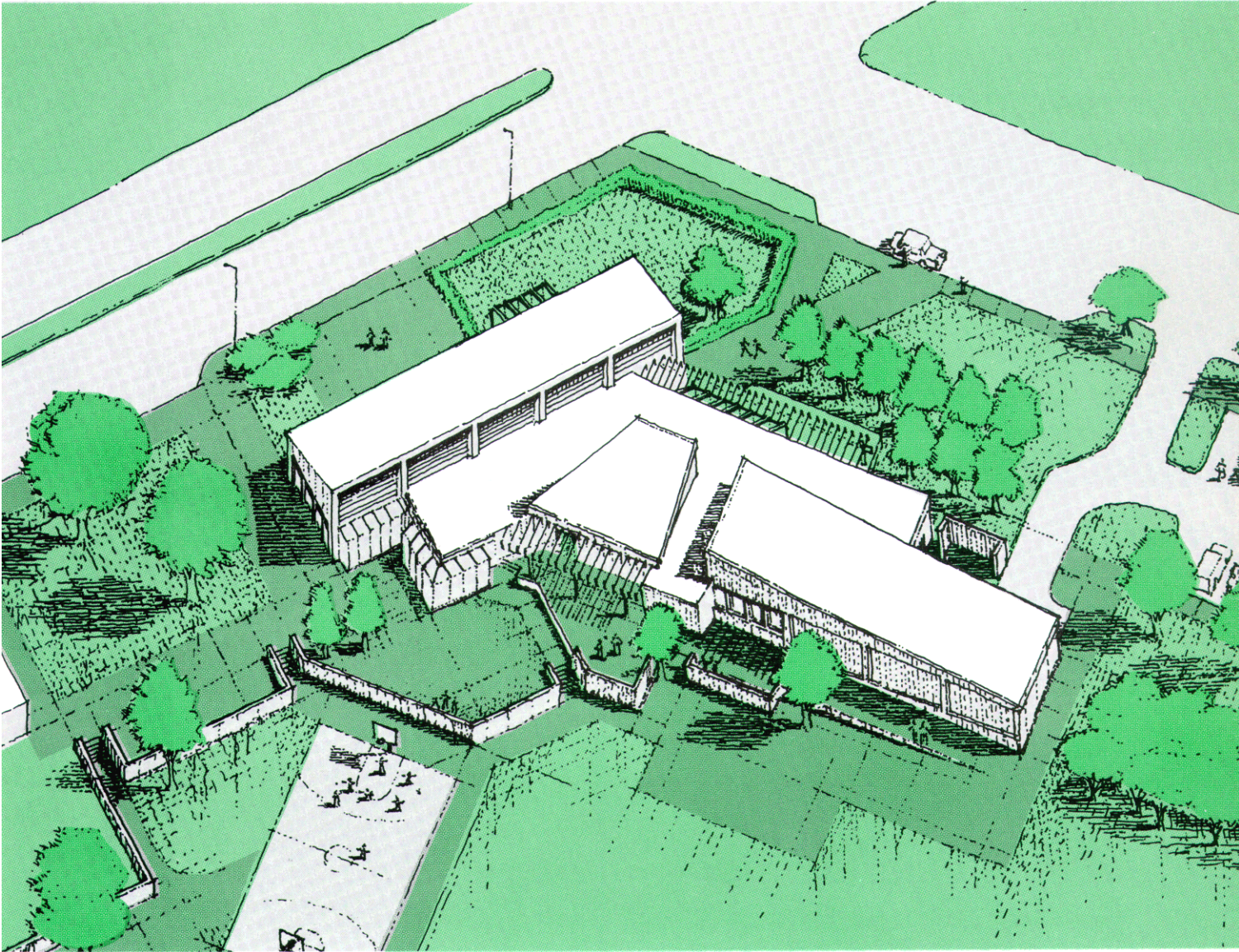


Figure 6-40 Fort Caribe Community Activity Center - Perspective

Fort Caribe
Community Activity Center

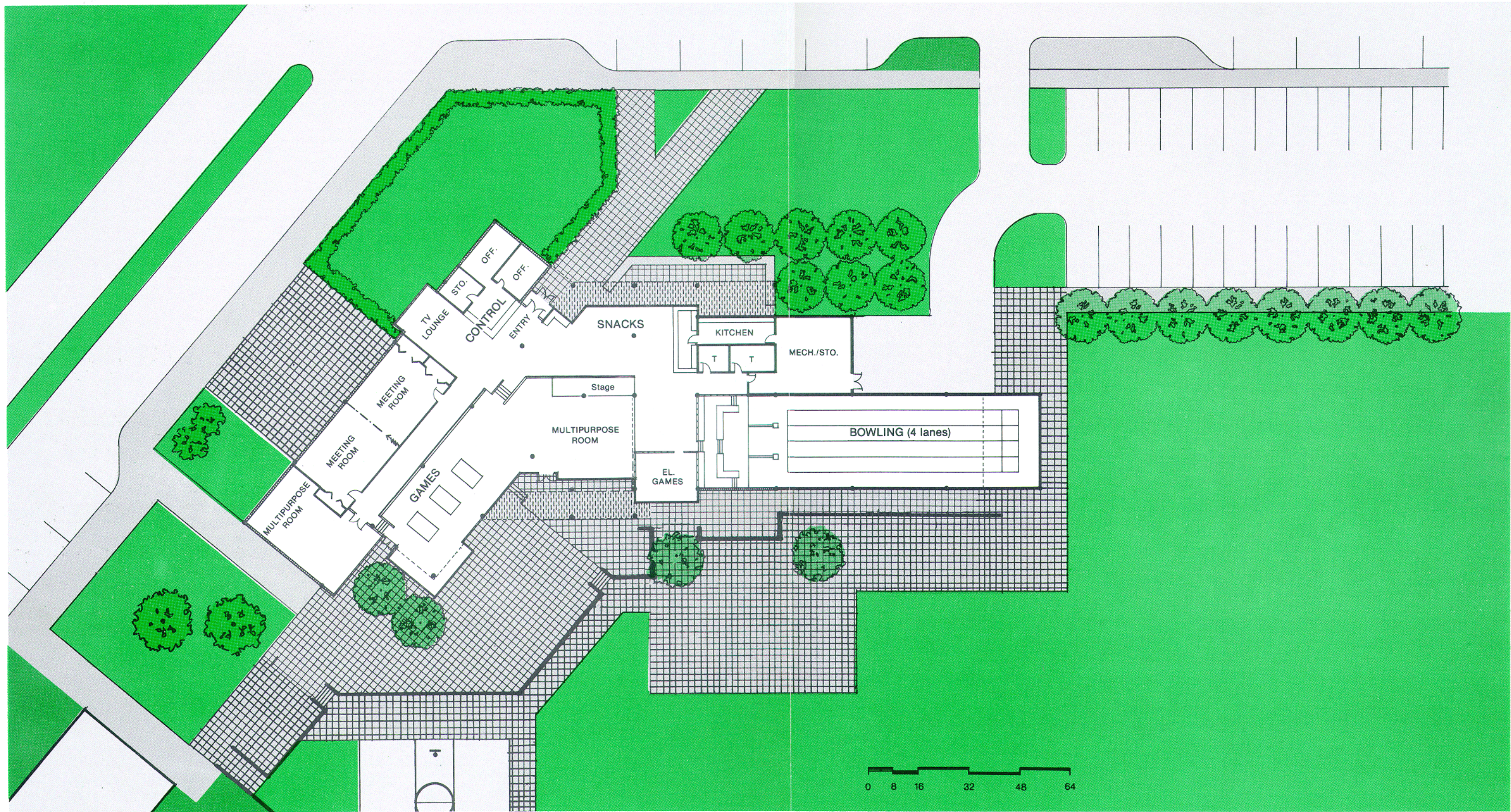
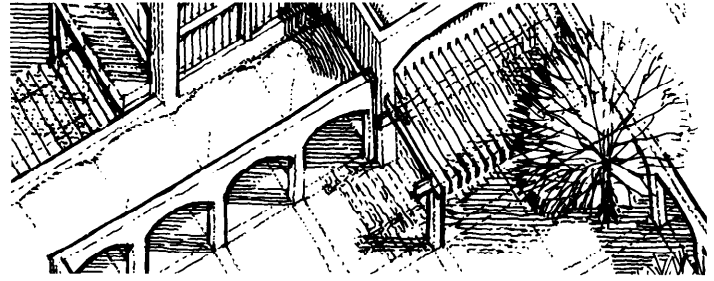


Figure 6-41 Fort Caribe: Community Activity Center-Plan



Community Activity Centers for Remote Sites and Small Populations

a. Introduction

Community Activity Centers for remote sites and small populations must solve special problems under constrained conditions. The CAC is a consolidated facility accommodating morale support activities and other morale, welfare and recreation programs, designed to provide a real center for post community life. The prototypical CAC programs and plans presented here are designed to serve isolated sites with military strengths of 250 or less.

This section includes a discussion of the planning considerations basic to the design of Community Activity Centers for small remote installations. It presents the design concept and organizational issues for such CAC's in terms of a facility designed for a hypothetical overseas post. It provides basic building programs and plans for CAC's for installations of three military strength ranges; 1 - 25, 26 - 100, and 101 - 250. These are suggested designs, for adaptation to local construction, climate and site conditions at each individual installation.

b. Planning Considerations

(1) Center of Community. Community Activity Centers for small remote sites must be planned to create a good community for the local military population. Since these sites are typically located in isolated and foreign environments, community services and leisure time activities for the installation population are not generally available in the surrounding area. The troops tend to spend most of their time within the confines of the installation. Thus development of a sense of community through provision of a self-sufficient program of community activities and services, and of a place to be for nonmission activities, is particularly important.

The Community Activity Center should integrate the full range of functions that comprise community activities and services for the installation. All nonmission activities are eligible for accommodation in the facility, morale support activities, post-exchange outlets, chapel, all grades club, and any other morale, welfare and recreation activity which exists on the installation. This integration may involve sharing of the same space, such as having chapel services and USO shows in a gymnasium, or designing well related spaces for the different functions within the same building.

(2) Responsive to Local Factors. The Community Activity Center designed for each installation should respond to the needs of the site. Only those functions which are locally appropriate, and not accommodated elsewhere, should be included. The basic programs and plans presented in this section may be modified (added to or subtracted from) depending on the local needs.

The architectural design of the CAC should be developed to suit local climatic, site conditions and construction methods.

(3) Issues of Remote Sites. Certain key factors pertain to small remote overseas sites which directly affect CAC planning:

- Isolation, often in foreign environments, makes it necessary for the post community services to be self-sufficient.
- Extremely limited land availability and difficult terrain, as is common at many of these sites, require facilities to be designed compactly to meet unusual site conditions. Little space may be available for construction, or for outdoor activities.
- In some areas, inclement weather forces the troops indoors much of the time for their leisure activities.
- The missions of these installations vary widely, including intelligence, weather, signal, tactical, missile sites, etc. The confinement and pressure that results from many of these mission activities intensifies the need for a leisure time release.
- The foreign environment, and rapid troop rotation in and out of many of these stations, prevents building of local roots. This places demands on the community activities for programs which new-comers can easily join and participate in, and which quickly provide a supportive sense of community.

- There are generally no families at these installations for the CAC to accommodate.
- No morale support activities staff are available, typically, to operate the remote-site CAC and its programs. They are run by military personnel on detail, or on a part-time basis, with little or no specialized training. Thus the center must be designed for easy operation and primarily self-directed activities.

(4) Additional Emphases for Continental U.S. There are many small installations within the U.S. which need CAC's. The designs presented here should be modified to reflect those factors which make this context different for each post and its population. Such modifications should depend on local decisions as to what is appropriate. Significant differentiating factors include:

- Some community services may be available off-post, and the context is culturally familiar. Therefore, the CAC may not need to provide as comprehensive and self-contained a community program.
- Families with children will normally be found at these installations. Since they will use the facilities, the designs must accommodate their different program demands.
- Civilian employee populations often work at these installations, sometimes outnumbering the military. If they are eligible to use the Community Activity Center, it must be designed to meet their needs as well.
- Criteria for handicapped accessibility must be met in CAC design, for the possible use of civilian and family populations.

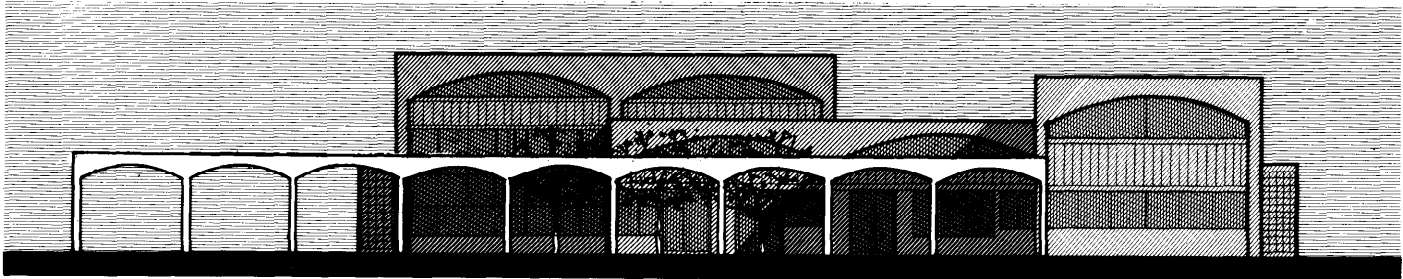


Figure 6 - 43 Fort Remote: Community Activity Center-Elevation

c. Design Concepts

The Community Activity Center designs for remote sites and small populations serve installations of three ranges of military strength; 1 - 25, 26 - 100, and 101 - 250. Basic programs and plans, for each of these three ranges, are presented in section d, below. However, the general design concepts for these three different sizes and configurations of facility are the same. They include similar functions and components, and reflect the same organizational principles. The designs are all intended to be developed to fit local climate, site conditions, and local labor and construction methods. They can be built with metal building systems.

The general design concepts for these CAC's are presented in this section through discussion of an illustrative application at Fort Remote, a hypothetical isolated site in the Eastern Mediterranean theatre. The plan is based on the basic CAC design for a military strength of 26 - 100. The building is designed to be built in indigenous architectural style, with local labor and construction (see figures 6 - 42 through 6 - 45).

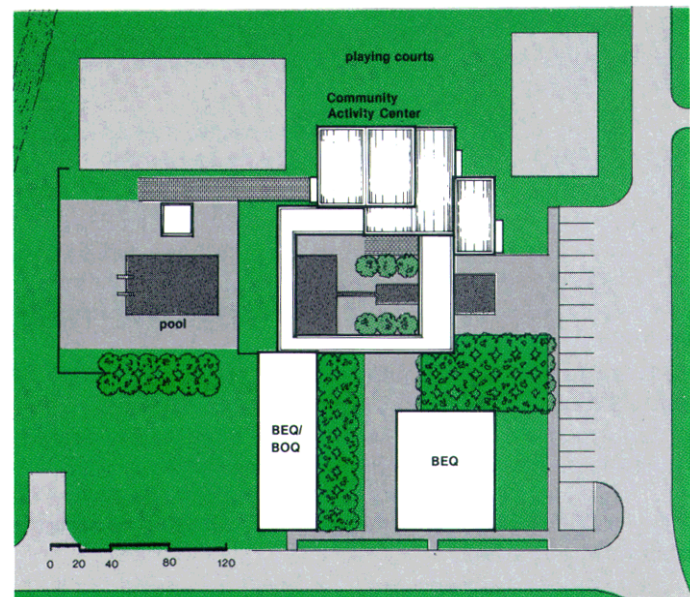


Figure 6 - 42 Fort Remote: Community Activity Center-Site Plan

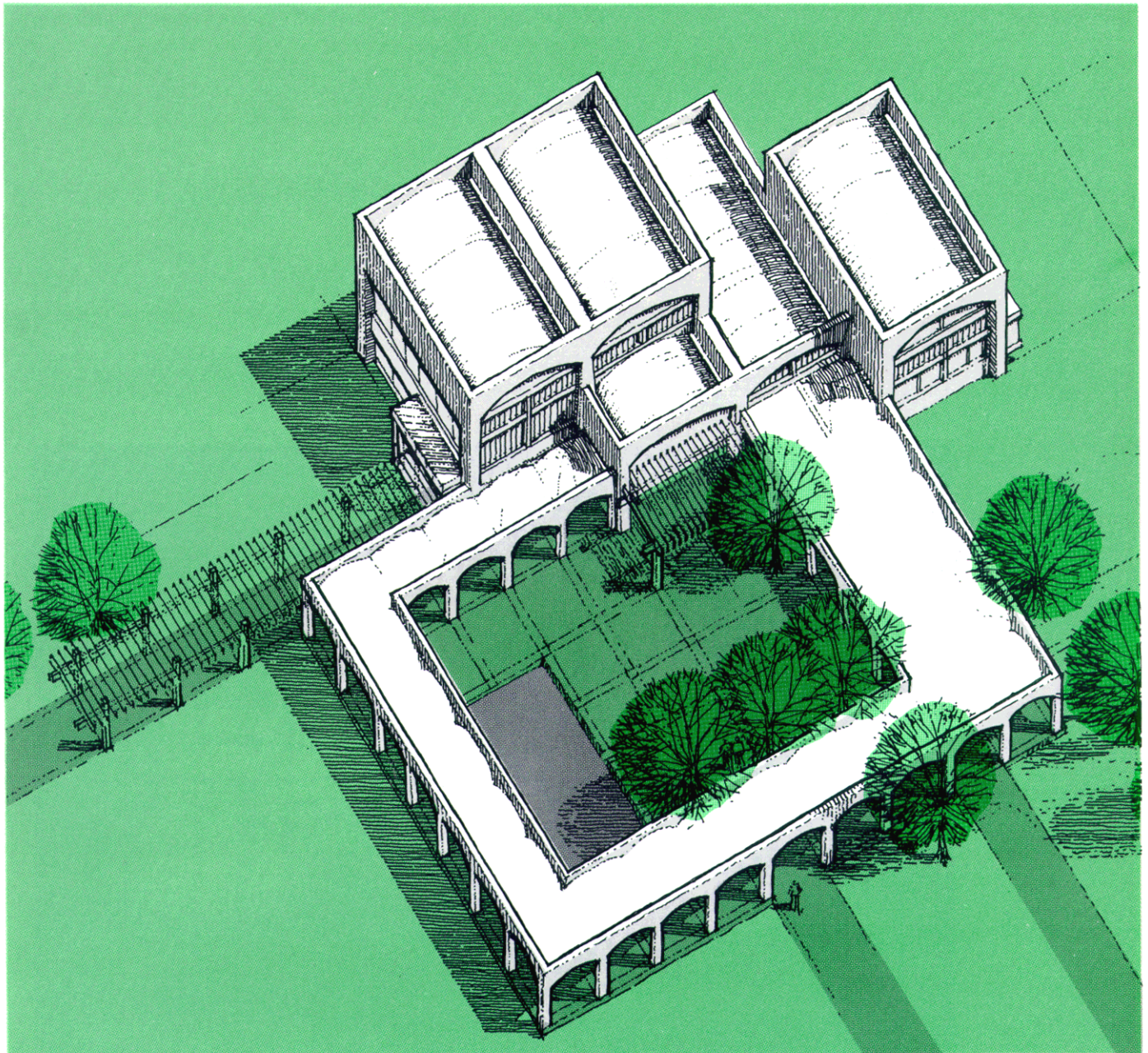


Figure 6 - 44 Fort Remote: Community Activity Center-Isometric View

(1) Functions. The following functions are accommodated in the Fort Remote Community Activity Center. A space program is found in table 6 - 11, together with the basic design for this midsize facility.

- Social Activities - lounging, snacks, television, card and table games.
- Games - ping pong, pool.
- Physical fitness - exercise, weights, shooting baskets and other multipurpose room athletic games.
- Large group events - movies, music performances, touring shows, chapel services, unit parties, classes. In a multipurpose room sized to hold the whole installation population, if necessary.
- Reading/quiet activities - paperback books and book kits, study, videotape and music cassettes, clubs and small meetings.
- Crafts - general crafts, light woodworking, repair, crafts kits.
- Music - instrument check-out, practice, jam sessions, performances.

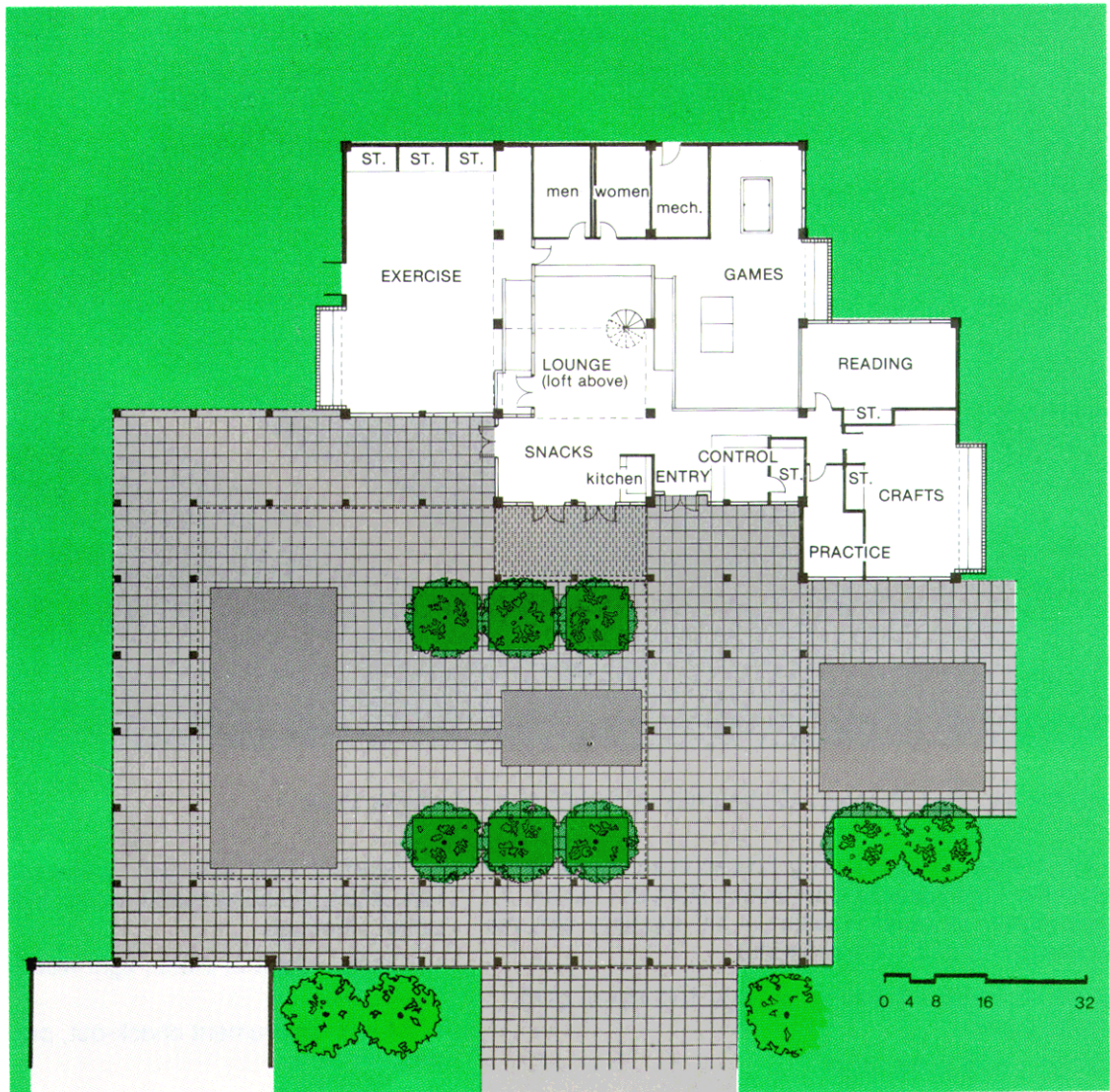


Figure 6 – 45 Fort Remote: Community Activity Center-Main Floor Plan

(2) Organizational Principles. Key organizational principles reflected in the design are valid for all the CAC's for remote sites and small populations:

(a) Modular Design. The facility is designed on a standard five-foot modular grid, which allows for construction either by indigenous methods or by a metal building system. The modular design also permits easy removal of part of a basic plan at the time of site adaptation, and easy addition of other modular components for different or additional functions.

(b) The Heart. The heart of the CAC is the lounge (see figure 6 - 45). It is central to the facility, very near and immediately accessible from the main entrance. It represents the easiest introduction to activities for newcomers - casual, unprogrammed, drop-in recreation. The lounge is next to and overlaps with the snack space. It overlooks the games area and exercise/multipurpose room, and has a view toward the more specialized quiet reading, crafts, and music practice spaces.

(c) Acoustic Zones. The CAC is divided into three separate sound zones:

- 1) the sound isolated block, including quiet reading, crafts, and music practice spaces, each of which is isolated from each other and from the rest of the facility;
- 2) the athletic area, including exercise/multipurpose gym and support spaces, separated by glazed walls from the rest of the center; and 3) the open zone, including all the remaining spaces, entrance, lounge, snacks, games, which are a continuous open space for ease of interaction and exposure.

(d) Visual Openness. Only one part of the facility is enclosed, the mechanical/maintenance/toilet/storage block. All the rest is visually open and accessible, either as continuous open space or with maximum glazing for views where acoustic separation is required. Ramped level changes provide overlooks to enhance this visibility, as between the lounge/snack area and the games and exercise spaces (see figure 6 - 45). These connections are important for attraction and ease of movement between activities, and for combined functioning of spaces for events like unit parties.

(e) Control. The central control desk, at the main entrance, permits supervision of the entire CAC by one staff person. The open design of the center allows this position to overlook the entrance, games room, lounge, snack area, reading room, exercise/multipurpose space, and the entrance to the crafts areas and music practice rooms.

(f) Access Outdoors. The snack bar is placed in the front of the building, opening out onto an eating terrace. In this way, an activity with a diverse appeal is visible from the outside and from the entry direction, and connects the CAC to post life. The exercise room has direct access to the outside, near the playing courts and swimming pool.

(g) Post Orientation. The Community Activity Center is sited in the center of the installation, reinforcing its focal role in the community. It is next to the troop mess hall and post exchange, with easy access from all functional areas. The main entrance of the CAC faces the other post buildings directly, no one needs to go around the building to get in.

Table 6 - 10 Military Strength 1 - 25: Basic CAC Space Program

Function-Space	Area (Gross Square Feet)
Social Activities	1,270
Games	650
Lounge	420
Snack Bar	200
Arts and Crafts	260
General Crafts	260
Supply	(in control)
Music	150
Practice Room (1)	150
Instrument Checkout	(in control)
Library	170
Reading Room	170
Physical Fitness	910
Exercise/Multipurpose	830
Storage	80
General Support	550
Control and Storage	120
Toilets	220
Circulation	210
Mechanical	90*
Total	3,310

*Not included in totals

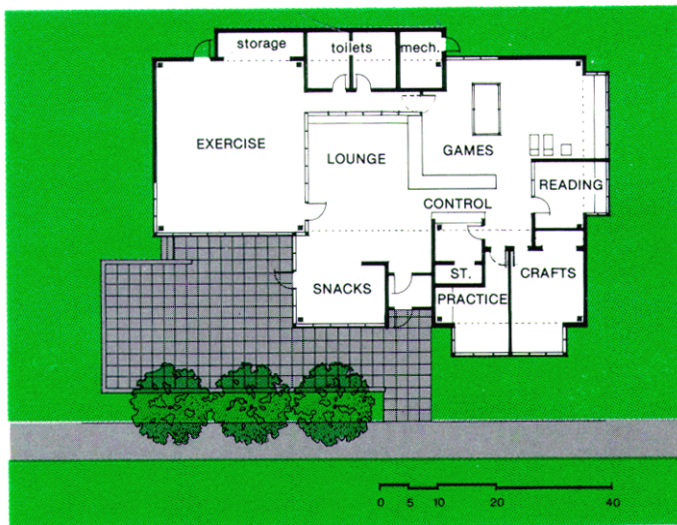


Figure 6-46 Basic Plan- Military Strength 1-25

d. Basic Programs and Plans

This section presents basic building programs and plans for Community Activity Centers for three different sizes of small installations. They are designed to serve remote sites outside the continental United States, and small installations in CONUS. These are suggested programs and plans, which may be modified by local judgements to fit installation conditions. The architecture and construction may vary from site to site as locally appropriate. The plans are designed to serve the higher population end of each of the indicated military strength ranges. However, they are adaptable to modular additions or subtractions as needed, some examples of which are shown as variants on the largest size center.

(1) Military Strength 1 - 25. This smallest of Community Activity Centers is a compact version designed for a very limited population of about 25. The space program is shown in table 6 - 10. The design (see figures 6 - 46 and 6 - 47) reflects the organizational principles discussed in the previous section, Design Concepts. The spaces are smaller and more integrated than in the mid-size example. The lounge and snack bar/vending machine area are one continuous space, separated by a low partition and built-in seating from the games area. The reading room, crafts space and music practice room open directly off this open area. The exercise/multipurpose room is sized to accommodate the entire installation population when necessary, and is faced with large glazed walls to the lounge and the eating terrace, with direct access out toward the playing fields.

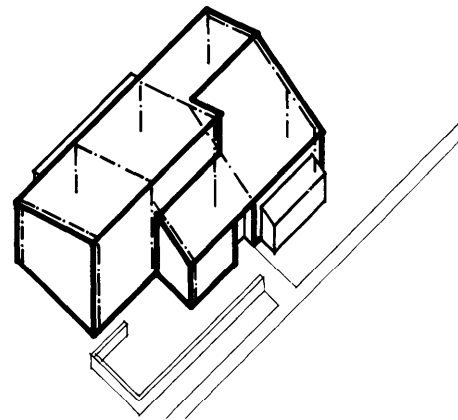


Figure 6 - 47 Isometric View

(2) **Military Strength 26 - 100.** This midsize Community Activity Center for small remote sites has been directly discussed in section c, Design Concepts. The space program is found in table 6 - 11 and the basic plan in figure 6 - 48. The isometric view in figure 6 - 49 contrasts a metal building system construction with the indigenous construction illustrated in figure 6 - 44. Although all the function-areas are larger in this plan than in the smallest CAC, the overall organization and relationships between the spaces are similar. The larger spaces permit changes in level between functional areas, connected by ramps, for improved views and interrelationships. The loft over the lounge is for additional lounge space which overlooks the multipurpose room, games area and snack bar.

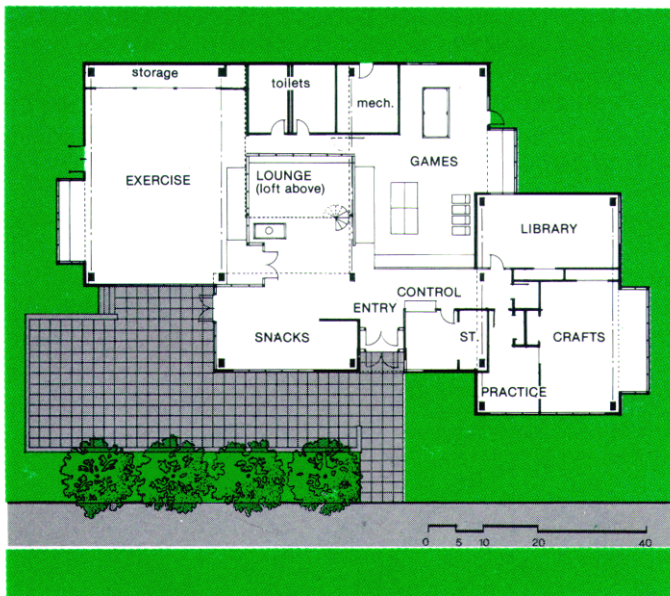


Figure 6-48 Basic Plan- Military Strength 26-100

Table 6 - 11 Military Strength 26 - 100: Basic CAC Space Program

Function-Space	Area (Gross Square Feet)
Social Activities	1,720
Games	870
Lounge	450
Snack Bar	400
Arts and Crafts	600
General Crafts	600
Supply	(in control)
Music	150
Practice Room (1)	150
Instrument Checkout	(in control)
Library	330
Reading Room	330
Physical Fitness	1,320
Exercise/Multipurpose	1,200
Storage	120
General Support	810
Control	120
General Storage	70
Toilets	220
Circulation	400
Mechanical	160*
Total	4,930

*Not included in totals.

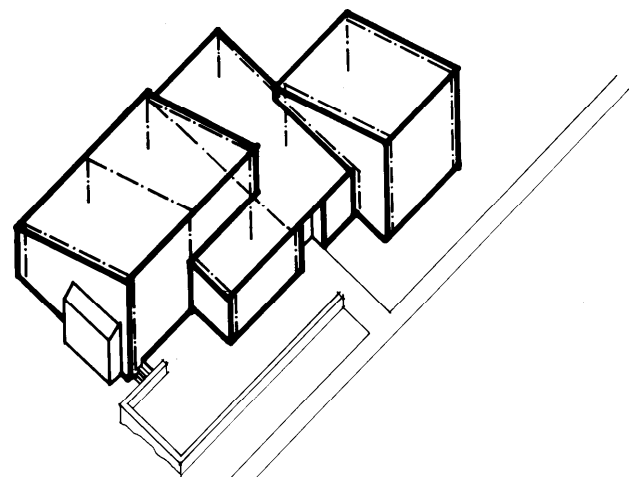


Figure 6 - 49 Isometric View

Table 6 - 12 Military Strength 101 - 250: Basic CAC Space Program

Function-Space	Area (Gross Square Feet)
Social Activities	2,640
Games	1,320
Lounge	570
Snack Bar	750
Arts and Crafts	1,000
General Crafts Supply	1,000 (in control)
Music	300
Practice Rooms (2) Instrument Checkout	300 (in control)
Library	420
Reading Room	420
Physical Fitness	3,030
Exercise/Fitness	350
Gymnasium/Multipurpose	2,540
Storage	140
General Support	1,330
Control	110
General Storage	140
Toilets/Lockers/Showers	580
Circulation	500
Mechanical	180*
Total	8,720

* Not included in totals.

(3) Military Strength 101 - 250. This is the largest of these small Community Activity Centers. The space program is shown in table 6 - 12, the design in figures 6 - 50 and 6 - 51. The design and organizational principles discussed in the previous section, Design Concepts, also apply to this center. This larger CAC differs from the midsize example. The multipurpose/exercise room is enlarged to a small gymnasium, with lockers and showers adjacent, and a small exercise room is added. The snack bar has a food preparation kitchen and service area, instead of vending machines. The games and crafts spaces are significantly larger, and two music practice rooms are provided. As in the mid-size plan, there is a loft over the lounge, potentially permitting additional lounge space overlooking the snack area and gymnasium, or space for such functions as a projection booth or dark room.

Variants on the large basic CAC plan can be achieved by addition of functional modules that match the modular system of the plan. Several connection points are readily available for good access from the heart of the CAC, as illustrated in the examples in figures 6 - 52 through 6 - 55. These examples show the addition of a small post exchange outlet and auto repair shop, an all grades club, a bowling alley, and an ACS office and child care center. All of these are compatible with the basic CAC program, depending on local need. The last is appropriate to consider in the continental U.S. where families are to be served by the Community Activity Center complex.

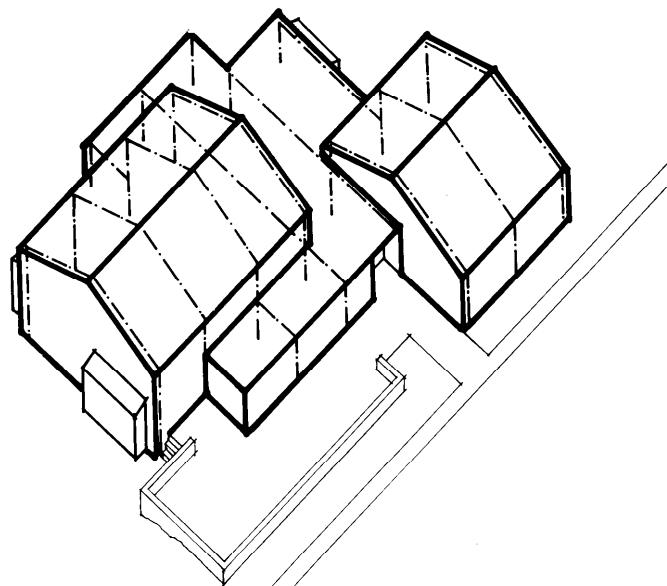


Figure 6 - 51 Isometric View

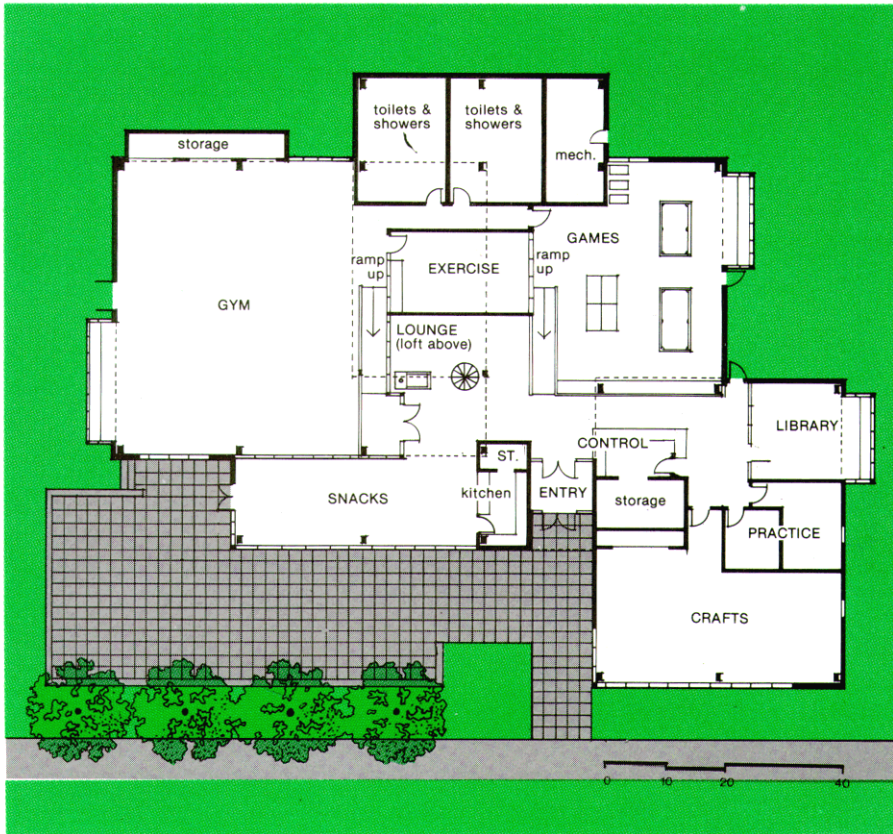


Figure 6-50 Basic Plan- Military Strength 101-250

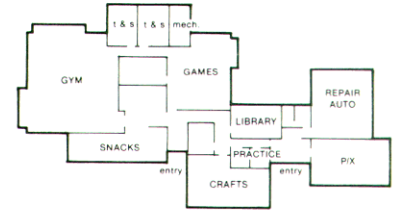


Figure 6 – 52
CAC Variant with Post Exchange and Auto Repair

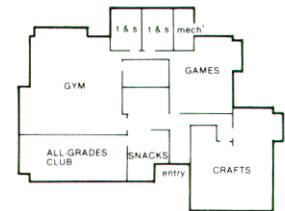


Figure 6 – 53
CAC Variant with All-Grades Club

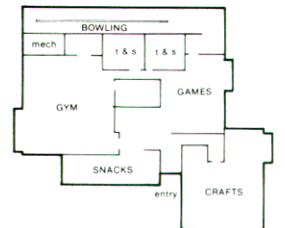


Figure 6 – 54
CAC Variant with Bowling

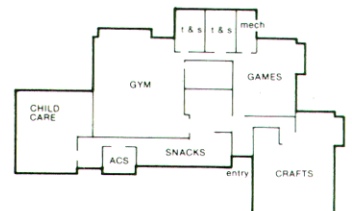


Figure 6 – 55
CAC Variant with ACS and Child Care

7

Space Criteria: A Guide to the Guides

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7 - 1

Using This Chapter

This Guide to the Guides provides a reference catalog of space and relationships criteria for the facility types to be considered for inclusion in Community Activity Centers. It includes the facility types listed in Section 3 - 8, "Religious, Welfare, and Recreation Facilities", of DOD 4270.1-M, *Construction Criteria Manual*. This list is summarized in Table 3 - 2 of this Design Guide.

For all these facilities, this chapter provides the DOD Space Authorizations from the *Construction Criteria Manual*. For those care facilities underlined in Table 3 - 2, it also excerpts critical space criteria from available Design Guides and Technical Manuals. This information includes:

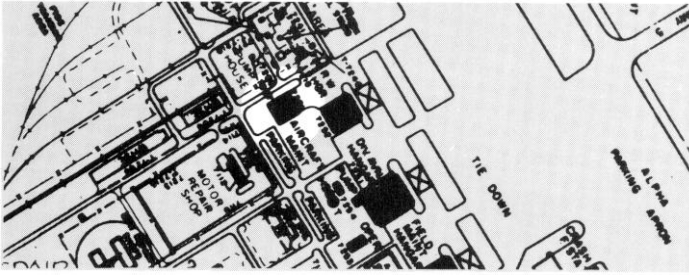
- Summary of functions and activities of the overall facility.
- Summary of recommended space allocations for the facility.
- Individual space criteria for component major functional areas, including descriptions, recommended space allocations and relationships.

This Guide to the Guides is intended for use in planning, overall programming, and initial design of community facility systems and Community Activity Centers. The information has been collected and summarized for the convenience of MSA and other community program staff, engineers, architects and planners. For detailed programming and design of the facilities or functional components of Community Activity Centers, and for more complete and current information sources, users should

see the referenced Design Guides for the individual facility-types. For Community Framework planning, this chapter provides an introduction to the functions associated with each facility in order to determine which programs and facilities should be included in community planning. It also provides a preliminary understanding of the component functional areas, space requirements and relationships which influence decisions on agency responsibilities and relationships, patterns of service distribution and coordination, and space program and location requirements (see Chapter 3). For individual project development, the summary criteria provides support for preliminary programming and preliminary design of the individual community and morale support facilities, their relationships and overlaps (see Chapters 4 and 5 for application).

The information in this chapter has been excerpted directly or summarized from the DOD *Construction Criteria Manual*, individual facility Design Guides and Technical Manuals. Discrepancies may exist between these source documents. In particular, differing definitions of military population as a space criteria basis may be confusing. Space figures in this chapter may also appear different from figures in the referenced Design Guides, because any figures which are listed in net square feet have been converted to gross square feet. For a more detailed explanation, footnoting of the numbers and other criteria, and their application, see the appropriate sections of the *DOD Construction Criteria Manual* and facility Design Guides. Individual Guides are referenced at the beginning of sections where they apply.

The data from DOD 4270.1-M are based on the edition dated June 1, 1978. This is subject to change. Consult the current DOD 4270.1-M to determine if data are still applicable for specific categories.



7 - 2

Aero Club Facilities

Table 7 - 1 DOD Space Authorization for Aero Club Facilities

Aircraft	Area (Gross SF)	
	Hangar Space	Multipurpose Space
1	900	500
2 - 5	2,300	1,000
6 - 10	3,800	1,200
11 - 15	5,300	1,500

An Armed Forces Aero Club is a recreational flying activity located on or near military installations, used by authorized personnel and approved by the Military Department concerned. The Aero Club space allowances shown in table 7 - 1 are intended to provide hangar space and aircraft storage during inclement weather, and to provide multipurpose space for administrative, training, classrooms, operations, scheduling safety meetings, and flight planning. Space requirements are based on the number of aircraft operated by the club.



7 - 3

Arts and Crafts Centers DG 1110-3-124

The Arts and Crafts Program consists of fine arts and multiple fine crafts. Additionally, it includes the constructive use of tools and materials, and the application of technical knowledge. Activities are planned for both beginner and professional to stimulate new interests and develop skills. Informal instruction is provided for individuals, and regularly scheduled classes are held for groups. Members of the program are encouraged to share their accomplishments with the civilian community through open-house activities and off-post exhibitions, workshops, fairs and similar activities.

At least seven basic arts and crafts are offered:

- Handcrafted Pottery and Ceramics
- Drawing and Painting
- Jewelry and Art Metal
- Weaving, Textiles and General Handcrafts
- Sculpture and Three-Dimensional Design
- Photography
- Woodwork and Repair

Table 7 - 2 DOD Space Authorization for Arts and Crafts Centers

Military Population ¹	Area (Gross SF)
1 - 100	----- ²
101 - 250	2,000
501 - 1,000	4,000
1,001 - 3,000	6,000
3,001 - 5,000	7,500
5,001 - 7,000	10,000
7,001 - 10,000	14,000
10,001 - 15,000	20,000
15,001 - 20,000	25,000
20,001 - 25,000	30,000
25,001 - 30,000	35,000
30,001 - 40,000	40,000
40,001 - 50,000	45,000
60,001 - 70,000	55,000
80,001 - 90,000	65,000

¹Military population consists of military strength plus 70% of the dependent population.

²Accommodate in other facilities.

Table 7 - 3 Recommended Space Allocation for Arts and Crafts Centers

Sub-Space	Size (Gross SF) based on Military Population
	20,001 - 25,000
General Arts and Crafts	8,260
Handcrafted Pottery and Ceramics	1,600
Glassblowing	600
Drawing and Painting	1,760
Jewelry and Art Metal	1,200
Weaving, Textiles, and Handicrafts	1,700
Sculpture and Three-Dimensional Design	1,400
Other Spaces or Activities	12,390
Photography	2,065
Woodwork and Repair	7,225
Support Activities	3,100
Total Arts and Crafts Center	20,650

¹The allocation of space for specific arts and crafts activities may be adjusted according to need as long as the total allocation does not exceed the authorized amount.

Arts and Crafts Centers generate a large amount of activity. The authorized minimum requirements for each installation is one multi-type center. However, the Arts and Crafts Center can be consolidated successfully with a larger Community Activity Center complex which offers a wide range of leisure activities. Libraries, theaters, recreation centers and snack bars can be mutually supportive with arts and crafts facilities and in attracting users. The consolidation of arts and crafts with shopping, recreation, and service activities, facilitates public transportation and access for service vehicles as well as users. Shared space potentials exist with theatre (stage workshop), library and recreation functions (meeting spaces), and materials supply and checkout for all CAC activities. If the arts and crafts user population is too large to be served by a single center, several small local centers may be appropriate.

Arts and Crafts Centers are typically divided into four basic functional areas, the woodworking shop, multi-purpose arts and crafts, photography studio, and utility/service areas. In addition, offices for the Arts and Crafts Program administration need to be provided.

The Arts and Crafts Center attracts a diversified cross section of the installation community with correspondingly diverse needs. For example, woodworking is popular among military and retired personnel, while photography attracts younger enlisted men. Transient personnel, unlike permanent post personnel, normally use the center sporadically for short term projects. The patterns of use may change with time. Programs and facilities must be adjustable to accommodate these varying and diverse user needs.

a. General Arts and Crafts

(1) Handcrafted Pottery and Ceramics

(a) *Description.* A comprehensive program includes clay preparation, forming techniques, decorating, firing procedures and glaze formulation. The process by which a novice is familiarized with the techniques includes demonstrations, lectures, graphic presentations and practice.

(b) *Space Allocation.* See Table 7 - 4.

(c) *Relationships.* The office and tool issue room should be near the general work area. Clay storage should be near a service entrance. Kilns and glassblowing furnaces are compatible and can be isolated together preferably on exterior walls or outdoors where climate permits.

Table 7 - 4 Space Allocation for Handcrafted Pottery and Ceramics

Sub-Space	Size (Gross SF) based on Military Population	
	20,001 - 25,000	
General Work Area	1,000	
Kiln Room	200	
Storage Area	200	
Exterior Work Area	200 ¹	
Total	1,600	

¹Value is half the allocation for a similar interior space.

(2) Glassblowing

(a) *Description.* The basic process starts with the production of molten glass within a refractory container in a furnace. Molten Glass can be made either by melting glass or by fusing together the raw materials that form glass. The molten glass is then gathered on the tip of a hollow-iron blow-pipe and is inflated, spun, tooled, sheared and manipulated to the desired shape. While it is worked the glass is kept molten by a small furnace called a "Glory Hole". The glass is finally tempered in an annealing oven.

(b) *Space Allocation.* See Table 7 - 5.

(c) *Relationships.* The glassblowing area should be near the outdoor work areas for gas kilns and storage areas. It requires a generous amount of space per participant and is incompatible to include in the general arts and crafts area of a combined facility.

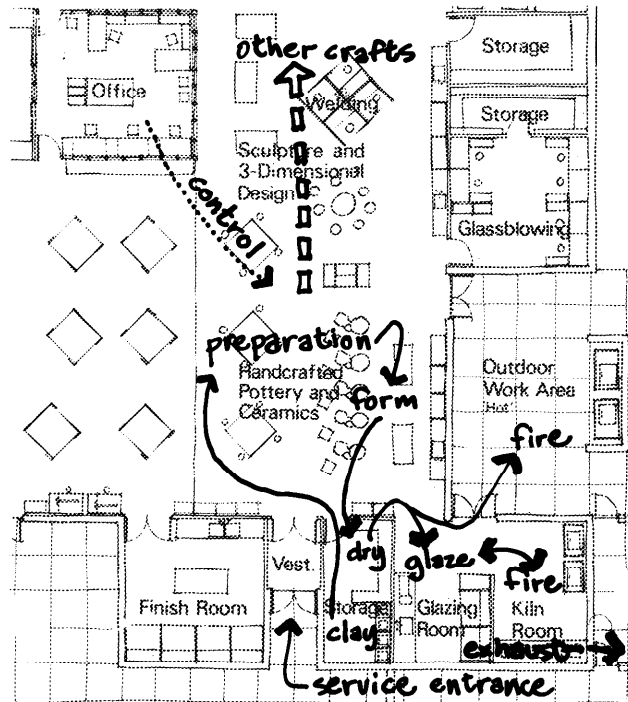
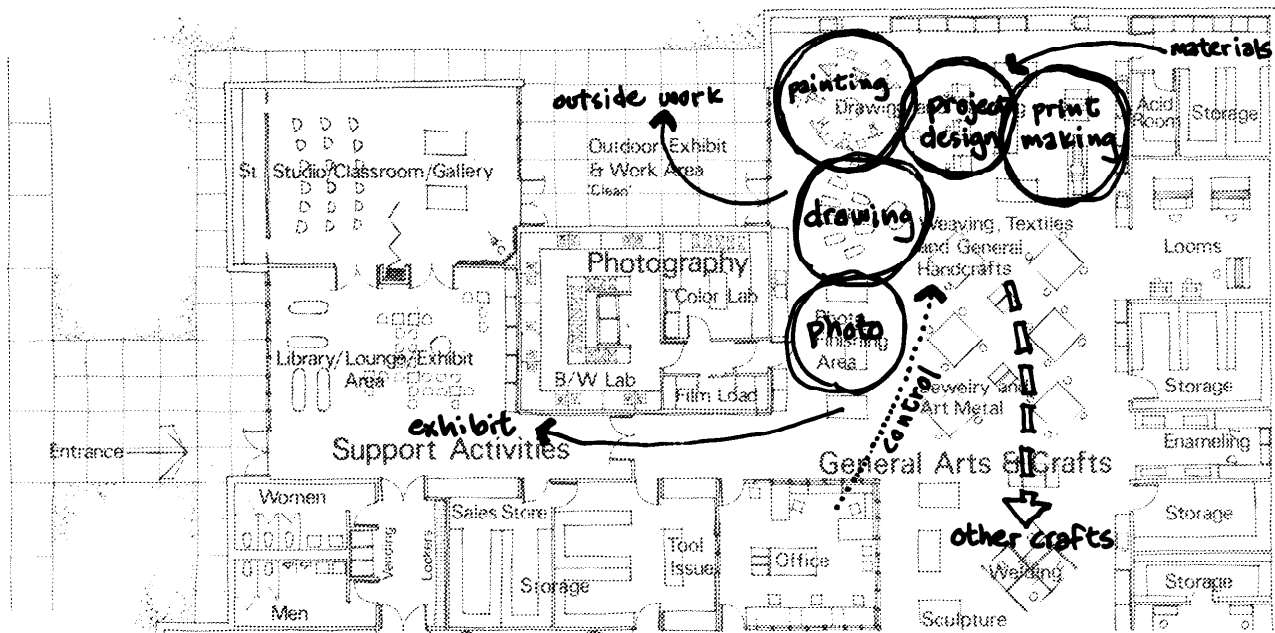


Table 7 - 5 Space Allocation for Glassblowing

Sub-Space	Size (Gross SF) based on Military Population	
	20,001 - 25,000	
General Work Area	400	
Storage Area	100	
Exterior Work Area	100 ¹	
Total	600 ²	

¹Value is half the allocation for a similar interior space.

²Not recommended for interior space with reduced square footage, especially in a CAC facility.



(3) Drawing and Painting

- (a) *Description.* In addition to painting and drawing in a variety of media, the graphic arts program includes design projects, drafting, wood and linoleum block printing, etching, lithography and silkscreen painting.
- (b) *Space Allocation.* See Table 7 - 6.
- (c) *Relationships.* Drawing and painting should be near the office, photography studio, exterior work areas, and studio classroom gallery area.

Table 7 - 6 Space Allocation for Drawing and Painting

Sub-Space	Size (Gross SF) based on Military Population	
	20,001 - 25,000	
General Work Area	1,200	
Acid Room	60	
Storage Area	300	
Exterior Work Area	200 ¹	
Total	1,760	

(4) Jewelry and Art Metal

- (a) *Description.* Processes include designing and construction with sheets, wires, tubes, and soldering, welding and casting. Additional activities in this category include procedures for lapidary (cutting or polishing stones) and metal enameling (fusing colored glass to metal in a kiln).
- (b) *Space Allocation.* See Table 7 - 7.
- (c) *Relationships.* Jewelry and Art Metal studio should be near the office and other general arts and crafts areas.

Table 7 - 7 Space Allocation for Jewelry and Art Metal

Sub-Space	Size (Gross SF) based on Military Population	
	20,001 - 25,000	
General Work Area	800	
Enameling Room	200	
Storage Area	200	
Total	1,200	

(5) Weaving, Textiles and General Handcrafts

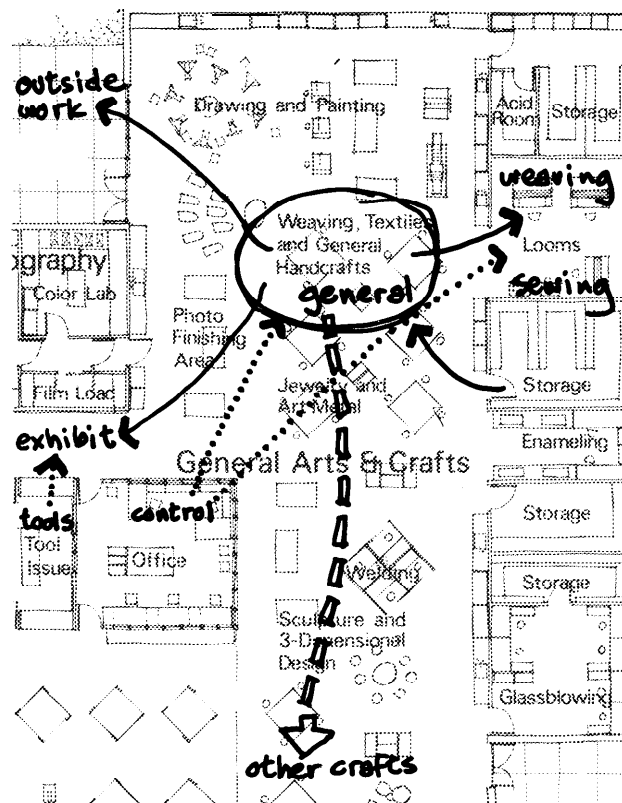
(a) *Description.* This category includes loom weaving, tapestry work, batik, tie-dye, macrame, soft sculpture, banners, fabric collages, needlepoint, stitchery, and sewing. General handcrafts include leather craft (braiding, sewing, tooling etc.), bookbinding, basketry, candle making and puppetry.

(b) *Space Allocation.* See Table 7 - 8.

(c) *Relationships.* The office, library, lounge, exhibit area, studio and classrooms should be easily accessible from the textile and general handcrafts area.

Table 7 - 8 Space Allocation for Weaving, Textiles and General Handcrafts

Sub-Space	Size (Gross SF) based on Military Population
	20,001 - 25,000
General Work Area	1,000
Weaving Area	400
Storage Area	300
Total	1,700



(6) Sculpture and Three-Dimensional Design

(a) *Description.* This program requires space for clay modeling, wood carving, stone cutting, plastic work, metal casting and welding. The area is also the center for model building, papier mache work, display and exhibition properties, and interior decoration.

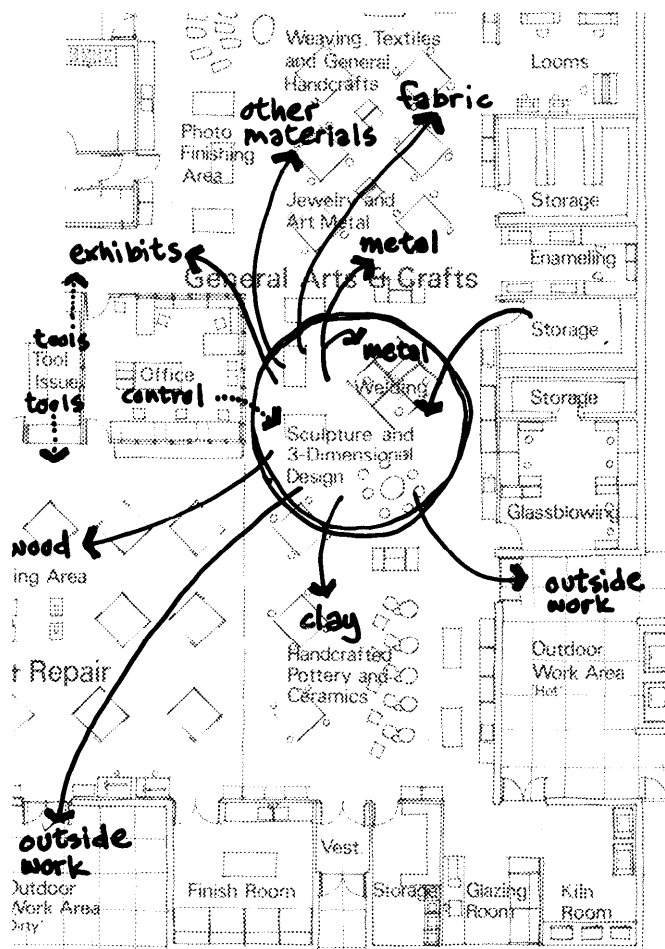
(b) *Space Allocation.* See Table 7 - 9.

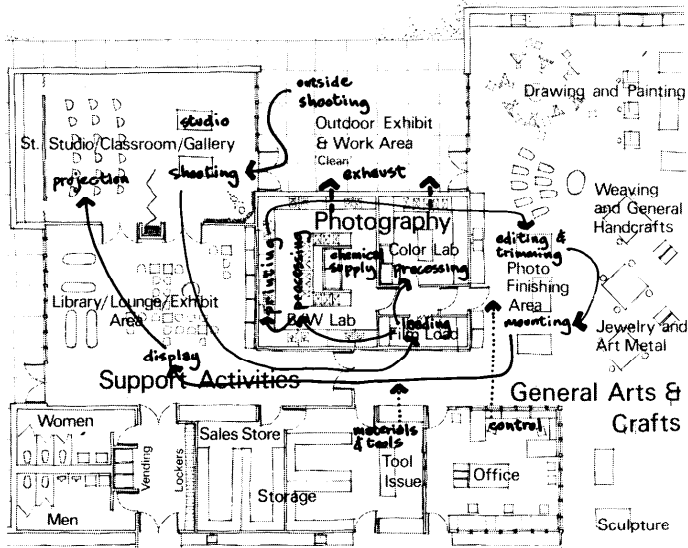
(c) *Relationships.* Sculpture and three-dimensional design should be near the office, studio/classroom/gallery, handcrafted pottery and ceramics, jewelry and art metal, woodwork and repair, drawing and painting and exterior work areas. Good outdoor access is important for large projects and materials movement.

Table 7 - 9 Space Allocation for Sculpture and Three-Dimensional Design

Sub-Space	Size (Gross SF) based on Military Population
	20,001 - 25,000
General Work Area	1,000
Storage Area	200
Exterior Work Area	200 ¹
Total	1,400

¹Value is half the Allocation for a similar interior space.





b. Other Spaces or Activities

(1) Photography

(a) *Description.* Processing consists of loading, developing, enlarging, print washing, drying, trimming and mounting.

(b) *Space Allocation.* See Table 7 - 10.

(c) *Relationships.* The studio/classroom/gallery should be near the main entrance, library/lounge/exhibit area and office. Finishing is closely related to graphic arts and may share the same area.

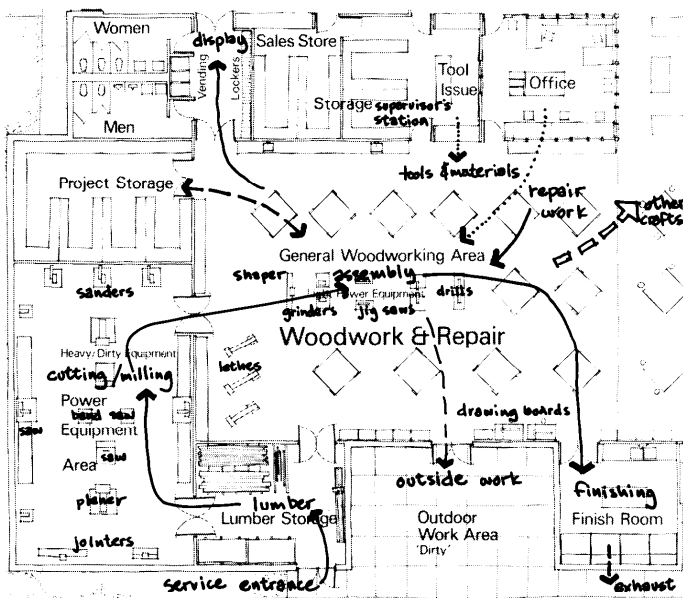
Table 7 - 10 Space Allocation for Photography

Sub-Space	Size (Gross SF) based on Military Population	
	20,001 - 25,000	
Monochromatic Processing Lab	600	
Color Processing Lab	200	
Film Loading Room	65	
Finished Area	400	
Storage Area	100	
Studio/Classroom/Gallery	500	
Exterior Work Area	200 ¹	
Total	2,065	

¹Value is half the allocation for a similar interior space.

(2) Woodwork and Repair

(a) *Description.* The woodworking program requires space and equipment for a variety of general carpentry and cabinetry activities. These include furniture design, construction, repair and refinishing, upholstery, turning pattern work, picture framing and rough carpentry projects. The repair of small appliances and other electronic equipment is part of the woodworking program, but should be isolated in a more dust-free area such as the general arts and crafts area.



(b) *Space Allocation.* See Table 7 - 11.

(c) *Relationships.* The woodworking shop should be located in an area of the building which isolates noise. The supervisor's station should be near or part of the office and tool issue room. The service and material receiving entrance should be under staff supervision. Provide convenient access to the technical reference library. Wash-up areas and lockers for work clothes should be located near the shop entrance. Good exterior access is required for large scale materials delivery and projects. Adjacency to the theatre stage will permit shared use for scenery and props workshop.

Table 7 - 11 Space Allocation for Woodwork and Repair

Sub-Space	Size (Gross SF) based on Military Population	
	20,001 - 25,000	
General Work Area	3,025	
Power Equipment Area	2,000	
Lumber Storage Area	500	
Finish Room	400	
Project Storage	600	
Tool Issue Room and Supervisor's Station	300	
Exterior Work Area	400 ¹	
Total	7,225	

¹Value is half the allocation for a similar interior space.

c. Arts and Crafts Support

(1) Arts and Crafts Support Areas

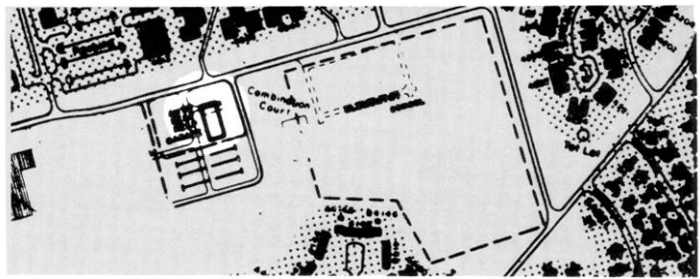
(a) *Description.* These spaces include the office, sales store, tool issue and storage, library/lounge/exhibit areas, studio/classroom/gallery, circulation, lobby, lockers, utility, and service areas.

(b) *Space Allocation.* See Table 7 - 12.

(c) *Relationships.* The support areas should be convenient to all major areas of the arts and crafts center. Major potential for shared space with other parts of the Community Activity Center exist: in a joint sales store and equipment issue area with other programs; in inclusion of arts and crafts publications in the general-use library; in shared use of classroom/meeting space, vending area, lounge, lockers, restrooms and circulation. The arts and crafts exhibit space should have good visibility and accessibility from the central circulation of the CAC.

Table 7 - 12 Space Allocation for Support Activities

Sub-Space	Size (Gross SF) based on Military Population	
	20,001 - 25,000	
Office	300	
Sales Store	200	
Tool Issue and Storage Area	300	
Library/Lounge/Exhibit	600	
Studio/Classroom/Gallery	500	
Restrooms	300	
Lockers and Vending Area	100	
Circulation	800	
Total	3,100	



7 - 4

Automotive Centers

DG 1110-3-126

Auto Crafts is one of the most widely used facilities in the Morale Support Activities Program. The primary users are assigned military personnel, both officers and enlisted men. Military retirees and dependants of assigned personnel, whose vehicles are registered with installation authorities, are eligible users on a space available basis. Army Continuing Education System (ACES) classes, in auto mechanics, anti-pollution control, upholstery, air conditioning, welding and body work, may also utilize the auto repair facilities for practical laboratory experience.

Other activities include the constructive repair and maintenance of personal vehicles such as cars, trucks, trailers, motorcycles and bicycles. Highly specialized operations are not generally performed and long term repairs are authorized only when space is available. Some storage space must be provided for inoperative vehicles.

Due to the nature of auto crafts, a separate specialized facility is authorized for each installation. Unlike Morale Support Activities, Automotive Centers' are not necessarily located close to other social/recreational facilities. Location in a multi-building CAC complex should not be considered. The Automotive Center must be sited to avoid any unfavorable impact, such as noise or visual blight of exposed vehicle storage, on community activities or nearby residential or operations areas. Good vehicular access is essential, and convenient relationship to gasoline/service stations desirable.

Table 7 - 13 DOD Space Authorization for Automotive Centers

Military Population ¹	Area (Gross SF) ²
0 - 25	None
25 - 50	1,000
50 - 100	1,500
101 - 250	2,250
251 - 500	3,000
501 - 1,000	4,200
1,001 - 3,000	6,000
3,001 - 5,000	9,000
5,001 - 7,000	12,000
7,001 - 10,000	15,000
10,001 - 15,000	18,000
15,001 - 20,000	21,000
20,001 - 30,000	24,000
30,001 - 40,000	30,000
40,001 - 50,000	36,000
50,001 - 60,000	42,000

¹Military population is defined as military strength plus 10% of dependent population.

²Size - based on 500 square feet per auto.

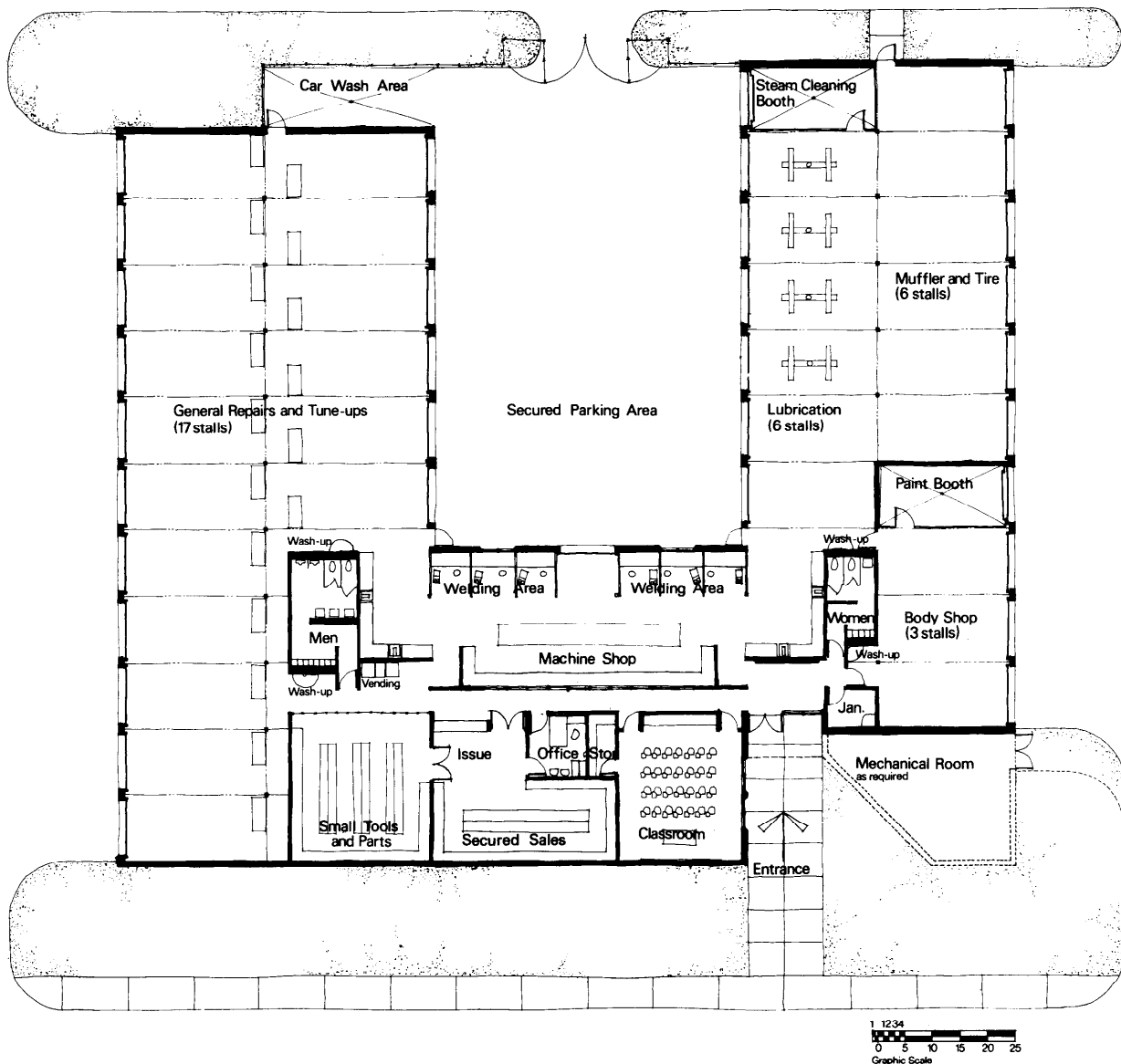
Table 7 - 14 Recommended Space Allocation for Automotive Centers

Sub-Space	Size (Gross SF) based on Military Population	
	External Vehicular Circ. ¹	Internal Vehicular Circ. ²
	15,000 - 20,000	15,000 - 20,000
Automotive Areas	11,660	10,140
Welding and Machine Shop	2,200	2,820
Office and Storage	1,650	2,120
Classroom	710	920
Service Areas	780	1,000
Total Automotive Center	17,000	17,000

¹Total number of auto stalls - 34.

²Total number of auto stalls - 25.

¹Automotive Centers are referred to as Auto Crafts Centers in the related design guide, DG 1110-3-126.



a. Automotive Areas

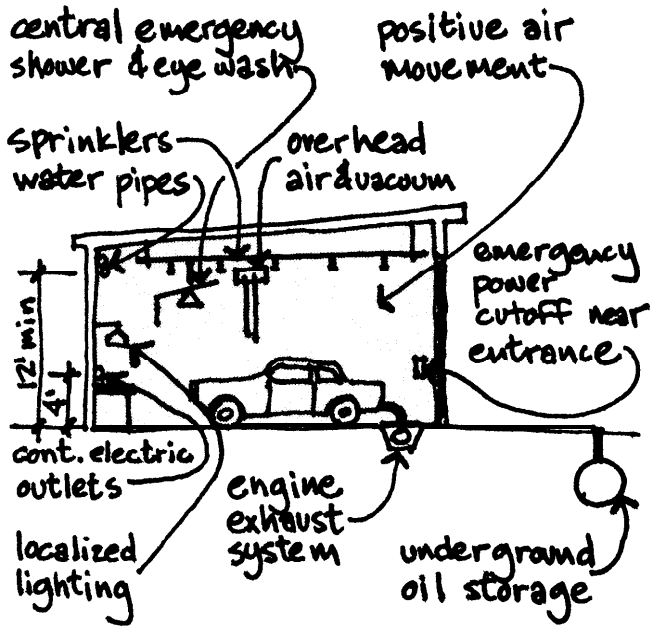
(1) *Description.* Most normal automotive service operations take place in this area. These spaces should be designed to facilitate the frequent movement of vehicles.

(2) *Space Allocation.* See Table 7 - 15.

(3) *Relationships.* Auto bodywork stalls should be separate from other work areas because of the dust and noise produced. Paint spray booths also require physical separation and independent exhaust systems. Steam cleaning stalls should be separated from dry activity areas. Steam cleaning can also be done outdoors, and ideally the equipment should be located for both indoor and outdoor use. Concrete pads should be provided to eliminate deterioration of asphalt paving.

Table 7 - 15 Space Allocation for Automotive Areas

Sub-Space	Size (Gross SF) based on Military Population	
	External Vehicular Circ.	Internal Vehicular Circ.
General Repairs and Tune-Ups	6,280	4,650
Muffler and Tire Shop	1,900	1,965
Lubrication Stalls	1,900	1,550
Body Shop	950	1,185
Paint Booth	315	395
Steam Cleaning	315	395
Total	11,660	10,140



b. Service and Support Areas

(1) Welding and Machine Shop

(a) *Description.* This program of activities includes cutting, grinding and machining of parts as well as welding.

(b) *Space Allocation.* See Table 7 - 16.

(c) *Relationships.* The machine and welding shop should be convenient to the repair areas and storage areas. A separate ventilation system is required for welding booths.

Table 7 - 16 Space Allocation for Welding and Machine Shop

Sub-Space	Single (Gross SF) based on Military Population	
	External Vehicular Circ. 15,000 - 20,000	Internal Vehicular Circ. 15,000 - 20,000
Shop Area	1,760	2,080
Weiding Area	440	520
Total	2,200	2,600

(2) Office and Storage Areas

(a) *Description.* These areas house an office, sales, tools issue, and storage space. In addition to storage requirements for tools, storage of flammable materials such as paint and welding tanks must be provided in enclosures away from the building and from vehicles. Storage lockers for patrons' work clothes, tools and small parts are desirable.

(b) *Space Allocation.* See Table 7 - 17.

(c) *Relationships.* The office, sales, tool issue and storage areas are designed as a unit so they may be controlled, from a centrally located supervisor's station.

Table 7 - 17 Space Allocation for Office and Storage

Sub-Space	Size (Gross SF) based on Military Population	
	External Vehicular Circ.	Internal Vehicular Circ.
	15,000 - 20,000	15,000 - 20,000
Office Space	110	140
Small Tools and Parts	770	980
Issue Area	110	140
Secured Sales	660	840
Totals	1,650	2,100

(3) Classroom

(a) *Description.* The classroom is used for formal instruction and club meetings. A small library may be included. Provisions should be made for the use and storage of visual aids, models and other training materials.

(b) *Space Allocation.* See Table 7 - 18.

(c) *Relationships.* The classroom should be located near the main entrance, with direct access to storage.

Table 7 - 18 Space Allocation for Classroom

Sub-Space	Size (Gross SF) based on Military Population	
	External Vehicular Circ.	Internal Vehicular Circ.
	15,000 - 20,000	15,000 - 20,000
Classroom	660	840
Storage Room	50	70
Total	710	910

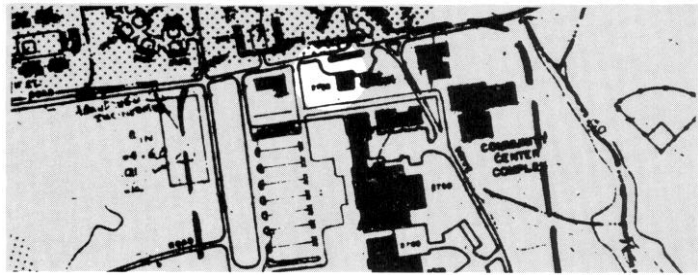
(4) Service Areas

(a) *Description.* These areas serve as support to the Auto Crafts Center and include toilets, wash areas, vending areas and a janitor's closet.

(b) *Space Allocation.* See Table 7 - 19.

Table 7 - 19 Space Allocation for Service Areas

Sub-Space	Size (Gross SF) based on Military Population	
	External Vehicular Circ.	Internal Vehicular Circ.
	15,000 - 20,000	15,000 - 20,000
Men's Toilet and Locker	265	310
Women's Toilet and Locker	165	195
Wash Areas	220	260
Vending Areas	50	65
Custodial	80	90
Total	780	920



7 - 5

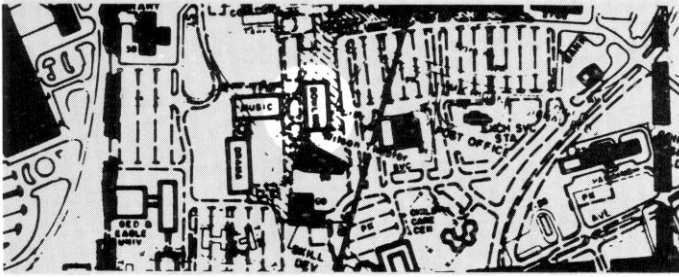
Banking Facilities

Banking facilities may be established only when they are authorized by the U.S. Treasury Department. Normally, only one banking facility is authorized for each installation. Branch banks, providing complete banking services, shall not be established without the prior approval of the appropriate Military Department. Space allowances for banking facilities are shown in Table 7 - 20. Banking facilities are appropriately located in the Main Post Center for convenient post-wide use and accessible relationship to all other community functions.

Table 7 - 20 DOD Space Authorization for Banking Facilities

<u>Personnel Population¹</u>	<u>Area (Gross SF)</u>
1 - 1,000	1,500
1,001 - 2,000	2,375
2,001 - 3,000	3,250
3,001 - 4,000	3,625
4,001 - 5,000	4,000
5,001 - 6,000	4,375
6,001 - 7,000	4,750
7,001 - 9,000	5,560
9,001 - 11,000	6,375
11,001 - 13,000	7,190
13,001 - 15,000	8,000
15,001 - 17,000	10,000
17,001 - 20,000	13,000
Over 20,000	Determined by Engineering Study

¹Active duty military personnel assigned to an installation and stationed within a commuting area not served by another military banking office plus civilian employees of the installation.



7 - 6

Bowling Facilities

Table 7 - 21 DOD Spaces Authorization for Bowling Facilities

Military Population ¹	No. Lanes	Area (Gross SF) ⁴
1- 250	2	2,700
251- 1,000	4	4,500
1,001- 1,800	6	6,600
1,801- 2,500	8	8,500
2,501- 3,200	10	10,750
3,201- 3,800	12	12,800
3,801- 4,900 ²	12	12,800
4,901- 6,300	16	16,500
6,301- 7,700	18	18,400
7,701- 9,800	24	24,700
9,801- 12,600 ³	30	31,000

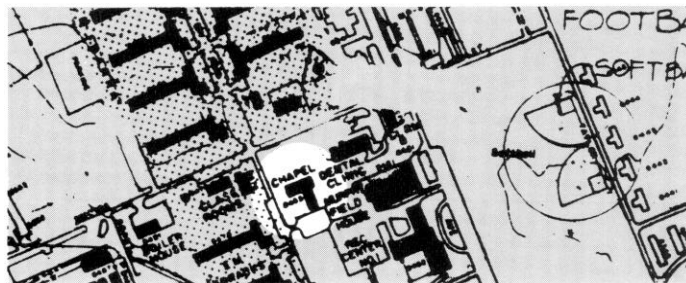
¹Military population is military strength plus 40% of the dependents.

²The figures given for military populations over 3,800 apply only to the 48 contiguous states. See DOD 4270.1-M for figures which apply overseas.

³For each full increment of 700 military population above 12,500, two additional lanes, totaling 1,900 square feet, may be provided.

⁴For each increment of 16 lanes, an additional 900 square feet may be added for a game room for billiards, pool, amusement games, etc.

Bowling facilities are among the most actively used of Morale Support Activities functions. Authorized lanes and space are indicated in Table 7 - 21. Bowling facilities should, where possible, be consolidated with other recreational and active sports in Community Activity Centers. For large bowling facilities, this may best be done by co-location of a separate structure. However, small numbers of lanes can be integrated in the Main Post and Local CAC's with benefits of shared snack bars, electronic and other games areas, and other support spaces. Adequate parking for bowling must be conveniently located, but time-of-day use patterns may permit effective sharing with other functions. Acoustic isolation of the bowling center from other spaces is essential, but good visibility between bowling and the recreation functions is desirable.



7 - 7

Chapels and Religious Education Facilities

DG 1110-3-116

The Army Chaplain at the installation level has the responsibility to provide religious services for the military community. In keeping with contemporary needs, facilities should accommodate a variety of activities and religious expression. In addition to services, chaplains normally conduct bible classes, religious fellowship activities (to include preparation and serving of meals), film festivals, liturgical drama, choir practice, music lessons for choir leaders, organists and pianists, family seminars, individual and group counseling, and various committee meetings. These activities may involve special equipment such as extra microphones, rheostat lighting, stereo systems, and audio visual setups.

The Religious Education Facility (REF) is utilized seven days a week, for the religious education and training of single soldiers, married soldiers, and dependents. In addition, spiritual group activities are conducted to include ecumenical programs.

The design guide outlines these major functional areas:

- The Chapel
- Chapel Support Areas
- Learning Areas
- REF Support Areas

The chapel site should be convenient to family housing, troop billeting areas, and other community quality of life support facilities. The site should enrich the visual symbolism of the Chapel center and relate to existing or proposed REF. Chapel and Religious Education Facilities are not necessarily consolidated with MSA Community Activity Centers. However, on very small posts, sharing of community facilities may be an option until dedicated facilities are provided.

Table 7 - 22 DOD Space Authorization for Religious Facilities¹

<u>Installation³ Population</u>	<u>Number of Chapel Seats Authorized</u>	<u>Area (Gross SF) of Religious Educational Facilities Authorized</u>
1 - 500	200	3,855
501 - 1,000	500	5,535
2,001 - 3,000	900	8,055
5,001 - 6,000	1,500	12,255
10,001 - 11,000	2,100	16,455
15,001 - 16,000	2,400	20,655
20,001 - 21,000	2,700	24,855
25,001 - 26,000	3,000	28,215
29,001 - 30,000	60 seats per 1,000 persons over 30,000	840 square feet per 1,000 persons over 30,000

¹Chapels, exclusive of religious education facilities, will ordinarily be built in one of the listed sizes indicated below for which the unit space criteria listed will be utilized. Mechanical space is not included in the space criteria and tabulation but shall be provided as required.

<u>Number of Seats</u>	<u>Authorized Sq. Ft. Per Seat</u>
200	32.5
300	28.5
400	25.5
500	23.0
600	22.2

²Provide 850 square feet of space for chaplain, chaplain services specialist, storage space for ecclesiastical material and small meditation chapel room approximately 30 - 35 seats.

³Installation population is defined as military strength and their dependents. Only those dependents 6 years old and older should be included when determining the number of chapel seats authorized. Minor dependents (under 6 years old) may be included for the purpose of determining authorized space for religious educational facilities. Civilian personnel may be included when they are dependent on the installation for religious support.

a. The Chapel

(1) Narthex

(a) *Description.* The narthex is the major entry point and should maximize the opportunity for meeting and informal conversation. The narthex is a key interior space for circulation, fellowship, and information.

(b) *Space Allocation.* See Table 7 - 23.

(c) *Relationships.* The narthex forms a transition between the exterior plaza and the chapel nave. Ideally, all major entrances into the nave, the administrative areas and REF, should occur through the narthex. Coat closets, public rest rooms and the bride's room should be adjacent to this area. The sacristy, if possible, should also be adjacent so that the minister can readily change his vestments and greet worshippers.

(2) Nave

(a) *Description.* The nave is the central worship area in the chapel. Seating in the nave must be positioned to allow access from aisles and sight lines to the chancel and pulpit areas. The community of worshippers should seem as continuous as possible, without end panel divisions.

(b) *Space Allocation.* See Table 7 - 23.

(c) *Relationships.* The nave must be immediately adjacent to the narthex and adjacent to the chancel (the center of worship). The chancel in all cases is part of the same volume as the nave.

(3) Chancel

(a) *Description.* The chancel area is a place for ceremony from which the Priest, Minister, or Rabbi leads the congregation in worship. A minimum chancel of 20' x 20' is acceptable for all chapel size variations. However this dimension may be increased when the choir is on the same raised platform with the chancel, thus becoming an integral part of the chancel area.

(b) *Space Allocation.* See Table 7 - 23.

(c) *Relationships.* The chancel must be an integral part of the nave with only a small change in level as a separation. The choir must be immediately adjacent as well. The activity room may open directly into the chancel or into the nave. Storage must be provided within 50 feet from the chancel.

(4) Activity Room

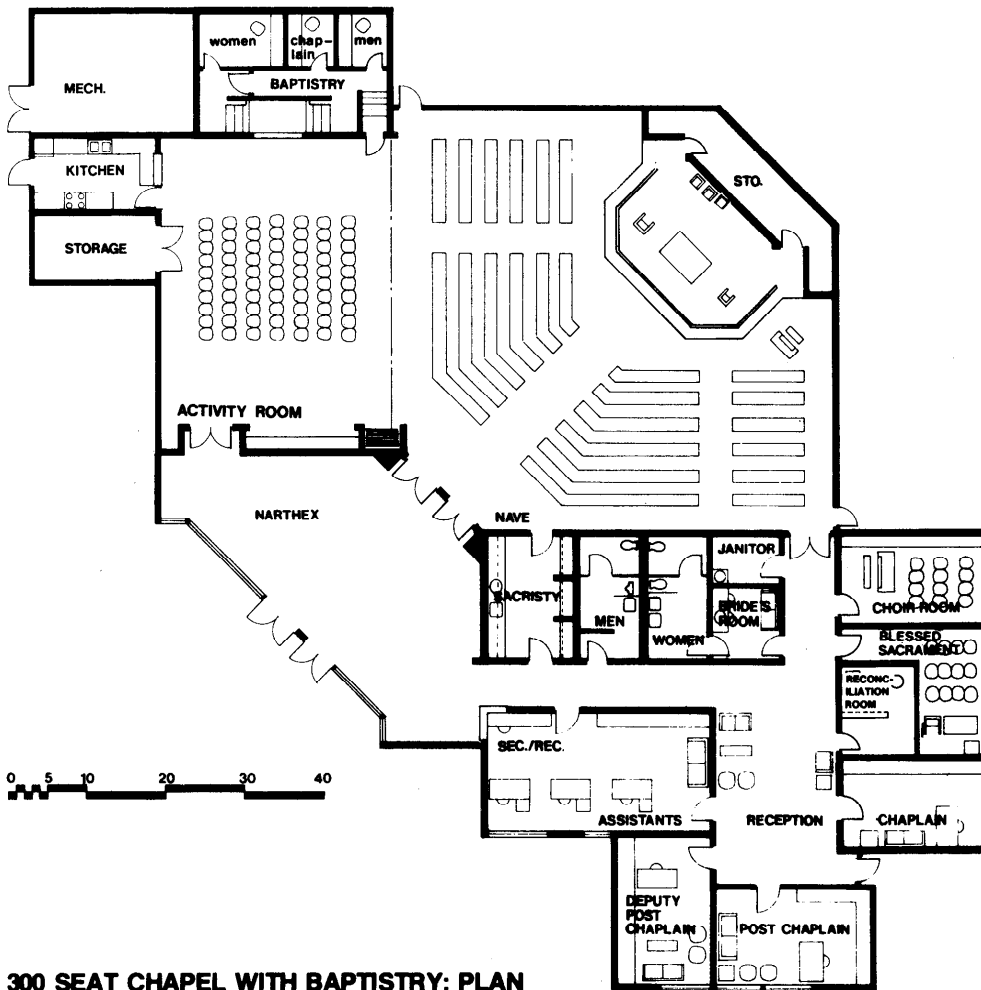
(a) *Description.* The activity room provides space for Sunday School classrooms (open for large classes or subdivided for smaller class instruction), family dinners, receptions, group parties and occasionally for baptismal services. With a moveable partition, the activity room can provide additional seating for services.

(b) *Space Allocation.* See Table 7 - 23.

(c) *Relationships.* The activity room is immediately adjacent to the Nave/Chancel area in order to provide

Table 7 - 23 Recommended Space Allocation for Chapels

Sub-Space	Size (Gross SF) based on Installation Population			
	501-1,000	1,001-1,500	1,501-2,000	2,001-3,000
The Chapel	4,625	6,750	8,250	9,765
Nave	1,735	2,600	3,345	4,210
Narthex	920	1,210	1,445	1,630
Activity Room	765	765	885	945
Chancel	865	1,365	1,735	2,105
Baptistry	-	410	410	415
Blessed Sacrament Room	175	235	265	295
Reconciliation Room	165	165	165	165
Support Areas	2,330	3,005	3,680	3,845
Worship Support Areas	695	725	825	855
Counseling and Administrative Areas	1,135	1,655	2,045	2,090
General Support Areas	160	175	230	240
Restrooms	265	330	425	470
Kitchen	75	120	155	190
Total Chapel Center	6,955	9,755	11,930	13,610



300 SEAT CHAPEL WITH BAPTISTRY: PLAN

additional seating for overflow worship. It is also immediately adjacent to the kitchen and the baptismal pool. Direct access is desirable to the exterior and to outdoor activity areas. It is essential to the narthex, to permit simultaneous activities in the nave and activity room.

(5) Baptistry

(a) *Description.* Most Christian sects practice some form of baptism involving a baptismal font or immersion pool. The baptismal service usually involves a small number of people and occurs at times other than the regular worship service. Therefore, the baptistry is best located adjacent to the activity room, rather than the nave.

(b) *Space Allocation.* See Table 7 - 23.

(c) *Relationships.* Dressing rooms for participants (male and female), and the chaplain, should be immediately adjacent to the immersion pool and separate from general public circulation. When not in use, the immersion pool should be masked from view. Restroom facilities should also be nearby.

(6) Blessed Sacrament Room

(a) *Description.* The Blessed Sacrament Room is used during Roman Catholic services and for private prayer and devotion.

(b) *Space Allocation.* See Table 7 - 23.

(c) *Relationships.* The Blessed Sacrament Room should be directly accessible from public circulation and adjacent to the reconciliation room. The room should be convenient to the chaplain's office, sacristy and narthex.

(7) Reconciliation Room

(a) *Description.* The reconciliation room is an alternative to the traditional confessional booth for Roman Catholics. It provides the option of confession with or without face-to-face contact. The size of the reconciliation room ranges from 120 to 140 square feet.

(b) *Space Allocation.* See Table 7 - 23.

(c) *Relationships.* The reconciliation room should be directly accessible from public circulation and adjacent to the blessed sacrament room. The room should be convenient to the chaplain's office, sacristy and narthex.

b. Support Areas

(1) Worship Support Areas

(a) *Description.* These areas are directly related to activities which take place in the chapel and worship areas. They include a bride's room, a choir room for choir practice, robing and storage of robes, and a sacristy for chancel supplies and vesting.

(b) *Space Allocation.* See Table 7 - 23.

(c) *Relationships.* The bride's room should be adjacent to the ladies' restroom and should have easy access to the narthex. The choir room should have direct access to the narthex but be acoustically separate. The sacristy should have easy access to restroom facilities, chancel and chaplain's offices.

(2) Counseling and Administrative Areas

(a) *Description.* The chaplain's Office must be both an efficient place to work and a pleasant environment for counseling. A work area is also provided for several assistants who need space for bookkeeping, secretarial work, filing, reception, reproduction and storage.

(b) *Space Allocation.* See Table 7 - 25.

(c) *Relationships.* These areas should be directly adjacent to the narthex. Visual control of the narthex and entry is desirable.

Table 7 - 24 Recommended Space Allocation for Religious Education Facilities

Sub-Space	Size (Gross SF) based on Installation Population				
	501-1,000	5,001-6,000	10,001-11,000	15,001-16,000	20,001-21,000
Learning Areas	3,745	7,375	10,560	15,860	20,435
Assembly/Classroom	1,225	2,355	3,490	4,520	6,085
Nursery	355	535	800	1,420	1,780
Preschool Area	140	890	1,335	1,680	2,666
Elementary Area	570	475	1,525	1,590	3,810
Junior High/High School Area	1,145	2,475	2,430	5,335	4,445
Resource Center	310	645	980	1,315	1,650
Support Areas	810	1,565	2,085	2,825	3,460
General Support Areas	170	285	290	525	655
Administration	180	305	305	305	305
Restrooms	330	710	1,090	1,460	1,835
Kitchen	130	265	400	535	665
Total REF¹	4,555	8,940	12,645	18,685	23,895

¹These totals are based on gross square foot equivalents for each space and sometimes exceed the totals presented in the design guide.

Table 7 - 25 Space Allocation for the Chapel: Counseling and Administrative Areas

Sub-Space	Size (Gross SF) based on Military Population			
	501-1,000	Over 1,000	Under 2,000	2,00-3,00
Post Chaplain	285	305	305	305
Post Deputy Chaplain	-	285	285	285
Assistant Post Chaplain	-	-	235	235
Chaplain	235	235	235	235
Assistant Area	425	425	520	520
Secretary/Receptionist	-	170	170	170
Reception Area	190	235	295	340
Total	1,135	1,655	2,045	2,090

(3) Chapel and REF Support Areas

(a) *Description.* Storage rooms should be provided in the Chapel and REF for equipment, furnishings and supplies. A janitor's room will also be needed.

(b) *Space Allocation.* See Tables 7 - 23 and 7 - 24.

(c) *Relationships.* Storage is particularly useful near the narthex (for coats), activity rooms, worship support areas, administrative and learning areas.

(4) Restrooms

(a) *Description.* Adequate restrooms should be provided for staff members, congregation, students and teachers. In larger REF's children's restrooms are also required in preschool and elementary areas.

(b) *Space Allocation.* See Tables 7 - 23 and 7 - 24.

(c) *Relationships.* Restrooms should be convenient to all spaces in the chapel, particularly those spaces with a high number of occupants. Restrooms must be adjacent to the nursery, sacristy, and choir room, and convenient to the activity room and assembly/classroom area. The women's restroom in the chapel should be directly accessible from the bride's room.

(5) Kitchen

(a) *Description.* The kitchen is used for the preparation of snacks and light meals served in the activity room, classroom areas, preschool area, nursery, and administrative areas. In addition it may be used for the preparation of meals for dinners and banquets served in either the assembly/classroom area or activity room. The kitchen should accommodate four persons working simultaneously. When the chapel and REF are contiguous, the kitchen is normally located in the REF portion of the Chapel Center.

(b) *Space Allocation.* See Tables 7 - 23 and 7 - 24.

(c) *Relationships.* Kitchens must be adjacent to the assembly/classroom area or the activity room and to an exterior service for trash disposal. They should also be convenient to the outdoor activity areas. Kitchen areas must be easily accessible from nursery, high school/ junior high school areas, and administrative areas.

(6) REF Administration

(a) *Description.* The Director of Religious Education's (DRE) office should provide space for off ice work, general study, and informal planning sessions with volunteer teachers. The conference room should seat 15 - 20 people for conferences, meetings, and training sessions, with provisions for audio-visual presentations. One or two offices should be provided for administrative staff or assistants to the DRE.

(b) *Space Allocation.* See Table 7 - 26.

(c) *Relationships.* This area should be adjacent to the narthex in a combined chapel and REF.

c. Learning Areas

(1) Assembly/Classroom

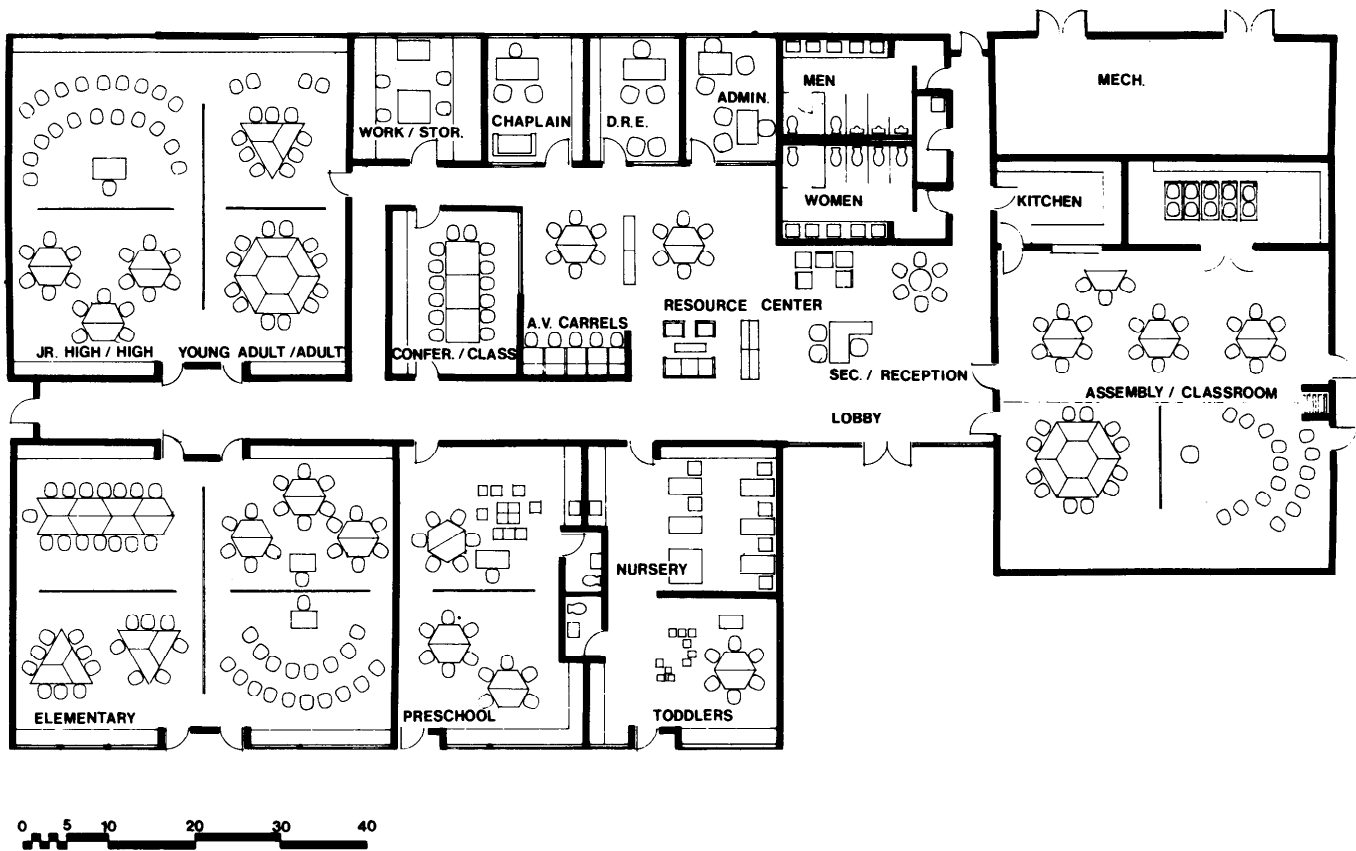
(a) *Description.* The assembly/classroom area should be a highly flexible space capable of accommodating groups of 30 or more people gathered for meetings, lectures, slides, movies, large classes, parties and theatrical performances. Movable partitions should be provided to subdivide the assembly area into two or more efficiently organized sub-areas.

(b) *Space Allocation.* See Table 7 - 24.

(c) *Relationship.* The assembly/classroom should be adjacent to kitchen facilities and the outdoor activity area. The room must have direct access to circulation, storage, entry, and restroom areas. In the small Chapel Centers the assembly/classroom may be adjacent to the nave.

Table 7 - 26 Space Allocation for REF Administration

Sub-Space	Size (Gross SF) based on Military Population				
	501-1,000	5,001-6,000	10,001-11,000	15,001-16,000	20,001-21,000
Director's Off ice	-	-	254	445	510
Conference Room	-	-	510	510	510
Administrator's Off ice	180	305	305	305	305
Total	180	305	1,070	1,260	1,325



10,575 SF REF PLAN

(2) Nursery

(a) *Description.* The desirable group size for the nursery is six to eight children, including babies and toddlers of up to two years. Two adults per nursery are required to supervise, prepare bottles and food, and change diapers and clothing. Separate rooms are desirable for children less than one year old, and for those from one to two years old. Allow 35 sq. ft. per child.

(b) *Space Allocation.* See Table 7 - 24.

(c) *Relationships.* The nursery should be adjacent to the preschool area and main REF entrance.

(3) Preschool Area

(a) *Description.* The preschool area should accommodate a group size of 15 - 20 children, ages 3 - 5, and three teachers. If possible, separate areas for two and three year olds, and four and five year olds, should be provided.

(b) *Space Allocation.* See Table 7 - 24.

(c) *Relationships.* The preschool area must be adjacent to an outdoor play area, near the nursery and main REF entry.

(4) Elementary Areas

(a) *Description.* The elementary age area should accommodate 15 - 25 students of ages six to eleven, and 2 - 3 teachers. Spaces must encourage free movement, flexible arrangement, and working in small groups. Separate areas are advisable for six to eight-year olds, and nine to eleven-year olds.

(b) *Space Allocation.* See Table 7 - 24.

(c) *Relationships.* Elementary age areas should have convenient access to REF entry and restrooms, and must have a direct fire exit to an outdoor play area.

(5) Junior High/High School Age Area

(a) *Description.* Separate but flexible areas for discussions, study, and workshops are recommended. Junior high classes for students ages 12 - 14 should have 12 - 15 students per class; senior high groups, ages 15 - 18, should have 15 - 25 students per class. Students are usually involved in large group activities such as dramatics, creative arts, singing, lectures, slides, and movies. For each group there should be one or two teachers.

(b) *Space Allocations.* See Table 7 - 24.

(c) *Relationships.* These areas should be convenient to REF entry and restrooms.

(6) Adult/Young Adult Areas

(a) *Description.* Adult/young adult areas should provide space for study, work, instruction, and discussions. Part of the adult area may be designed as a lounge with a residential quality. A work space for crafts and hobbies is also recommended. Spatial flexibility should be a major consideration, permitting usage by a variety of age groups, and group sizes, with the average being 15 to 25 persons.

(b) *Space Allocation.* Use same space as Junior High/High School Age area.

(c) *Relationships.* Classrooms should be convenient to REF entry and restrooms.

(7) Resource Center

(a) *Description.* The resource center should have space for activities including: individual and small group study, informal gatherings of small groups, browsing, reading, casual conversation, and use of resource materials. In most cases, the resource center is not supervised by a full-time resource librarian. The secretary/receptionist is generally responsible for visual supervision.

(b) *Space Allocation.* See Table 7 - 24.

(c) *Relationships.* The resource center should be adjacent to, and visually monitored by, the REF's secretary/receptionist. Convenient access to classrooms, administration, and the building entry is highly desirable.

d. Outdoor Areas

(1) Outdoor Worship Areas and Courtyards

(a) *Description.* Outdoor worship areas and courtyards should take advantage of existing trees and favorable views. Worship areas should be well defined but easily accessible from other outdoor public areas. Courtyards (for meditation) should be more intimate and confined.

(b) *Space Allocation.* Outdoor worship areas and courtyards are optional, and should be based on projected use and local climate conditions.

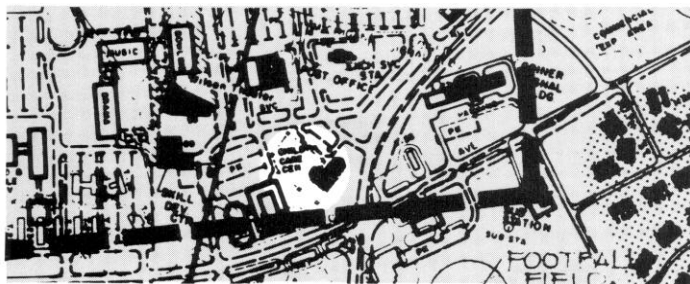
(c) *Relationships.* Outdoor worship areas should be directly accessible from the building and convenient to other outdoor public areas. Distance from noise sources such as streets is desirable. Courtyards are useful near the chaplains office, teaching and assembly areas.

(2) Outdoor Activity Areas

(a) *Description.* These areas include a plaza (at the main entrance) for outdoor gatherings before and after center activities, and outdoor activity area for the activity room and assembly/classroom, and play areas for preschool and elementary children.

(b) *Space Allocations.* The plaza should be 5% to 10% of the gross area of the building. The activity area should be approximately the same size as the activity room and assembly/classroom. Play areas should allow 150 sq. ft. per child.

(c) *Relationships.* The plaza should be adjacent to the main building entrance and drop-off area. The activity area should be adjacent to the activity room or assembly/classroom with convenient access to restrooms and public circulation. Play areas should be directly accessible from preschool and elementary areas, and isolated from streets and other public areas.



7 - 8

Child Development Service Facilities

Table 7 - 27 DOD Space Authorization for Child Care Centers

	No. of Children	Space Allowance GSF/child
Child Care Facilities	20% of the number of married military families	75

The primary, objectives of military child care programs are as follows:

- Improving the Quality of Life for military personnel and their families: developmental services which reduce the conflict between parental responsibilities and unit mission requirements.
- Extension of the family: the provision of services which support the child rearing responsibilities of the parents and serve as a supplement to, not a substitute for, the family as the primary agent for the care and development of the child.
- Aid to development: developmental services that promote the child's physical, social-emotional, and intellectual development.

Developmental programs provide for children from six weeks to 12 years of age. These programs should create opportunities for development within a context of security, trust and care. Within this comprehensive service, three primary components exist.

- Full Day care - designed to meet the needs of working parents requiring child development services on a regularly scheduled basis, 5 - 11 hours per day.
- Part Day care - to provide child development services on a regularly scheduled, part-day basis.
- Hourly Care - to meet the needs of parents requiring short term child care services on an intermittent basis.

No one type of child care facility is suitable for all situations and needs. A CDS program should offer a *network of child development services* coordinating facilities of different types and sizes:

- Center-based care - providing structured, age-appropriate group experiences within neighborhood or more centralized installation facilities.
- Quarter-based care - offering a family atmosphere for limited numbers of children, within certified homes in government quarters.
- Supplemental child care options - possibly including approved baby-sitter information/referral, parent co-ops, child development programs sponsored by private organizations, MWR convenience operations, and contracted services.

Dealing primarily with the development of facilities for center-based care, the child activity spaces in these centers are organized around an architecturally defined Home Base. The number of children in each Home Base is determined by staffing ratios as they relate to the age of the children served. Two (sometimes three) Home Bases are paired around common spaces. In this way, a small group of children have a sense of identity and of place within the larger facility.

a. Home Base Activity Spaces

(1) Book and Quiet Area

(a) *Description.* This area should be a well-defined area with soft surfaces and natural lighting.

(b) *Space Allocation.* See Table 7 - 28.

(c) *Relationships.* Screen this area from high activity and high noise producing areas.

(2) Imaginative Play

(a) *Description.* Provide a minimum of two areas, one that is concrete such as a play house and one that is ambiguous. Provide furnishings that can be altered by the children.

(b) *Space Allocation.* See Table 7 - 28.

(c) *Relationships.* Buffer from circulation.

(3) Science/Nature

(a) *Description.* Provide a sunny area or partial greenhouse for animals, plants, and physical science materials.

(b) *Space Allocation.* See Table 7 - 28.

(c) *Relationships.* Locate this area on the east or southeast side in good natural light. Separate or buffer it from more active areas.

(4) Table Toys

(a) *Description.* This area is devoted to storage and work surfaces for small manipulative toys and games.

(b) *Space Allocation.* See Table 7 - 28.

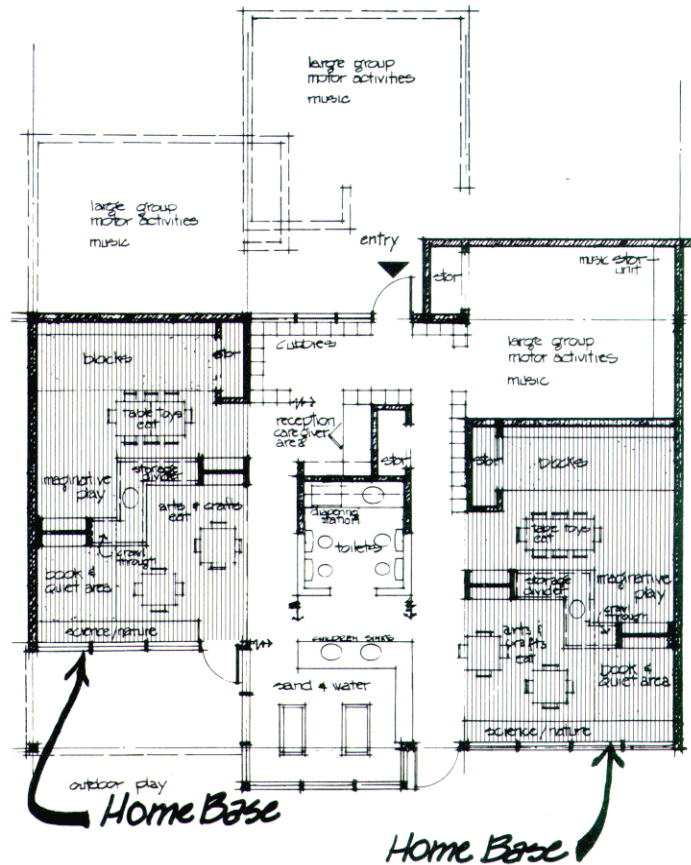
(c) *Relationships.* This area may serve as a buffer between highly active and quiet activity areas.

(5) Blocks

(a) *Description.* This area should accommodate either individuals or groups of 6 - 8 children playing with blocks and building toys or projects. In larger centers, provide a separate semi-enclosed woodworking area.

(b) *Space Allocation.* See Table 7 - 28.

(c) *Relationships.* Separate from the book and quiet area and other quiet activity areas.



(6) Eating/Cooking Areas

(a) *Description.* These are spaces which always double function with other suitable activity spaces. They should be home-like and full of natural light.

(b) *Space Allocation.* See Table 7 - 28.

(c) *Relationships.* Eating areas should be adjacent to main circulation.

(7) Napping Places

(a) *Description.* Include provisions for napping within either large common spaces or dispersed within home base activities.

(b) *Space Allocation.* See Table 7 - 28.

(c) *Relationships.* Easily accessible to toilets.

(8) Crib Spaces for Infants

(a) *Description.* Provide crib spaces that are acoustically controlled, but visually connected and physically accessible from other infant areas.

(b) *Space Allocation.* See Table 7 - 28.

(c) *Relationships.* Locate this area adjacent to the diapering area.

(9) Diapering Station

(a) *Description.* Provide an area that is quiet, protected from drafts and infant-scaled.

(b) *Space Allocation.* See Table 7 - 28.

(c) *Relationships.* Locate the diapering area adjacent to the crib space.

b. Common Spaces

(1) Sand Play and Water Play

(a) *Description.* Provide an area with waterproof wall and floor materials for tactile experience with sand and water.

(b) *Space Allocation.* See Table 7 - 28.

(c) *Relationships.* Locate near to arts and crafts, science/nature area and child bathrooms.

(2) Arts and Crafts

(a) *Description.* Provide an open, airy space for arts and crafts in which both structured and unstructured activities can take place.

(b) *Space Allocation.* See Table 7 - 28.

(c) *Relationships.* Area should be adjacent to, but buffered from, circulation routes and other noisy activities.

(3) Music/Media/Manipulative

(a) *Description.* This area should be a place for unself-conscious musical expression (either individually or in small groups), viewing of audio visual materials, and playing with manipulative toys that require open floor space.

(b) *Space Allocation.* See Table 7 - 28.

(c) *Relationships.* Locate adjacent to large group motor activities area in order to accommodate larger groups.

Table 7 – 28 Recommended Space Allocation for Child Development Service Centers-Activity Spaces

Sub-space	Size (SF) based on Age Group and Size of "Home Base" ¹			
	Infants	Toddlers	Preschoolers	Composite
Home Base	SF/10	SF/16	SF/20	SF/15
Book and Quiet Area	X	42	48	64
Imaginative Play	-	46	64	88
Science/Nature Area	X	X	X	52
Table Toys	X	68	142	224
Blocks	X	60	70	80
Eating/Cooking Area	(115) ²	X	X	90 ⁴
Napping Places	-	X	X	-
Crib Spaces	235 ³	-	-	-
Diapering Station	40	X	-	-
	275	216	324	598
Common Spaces	SF/20	SF/52	SF/40	SF/30
Sand and Water	X	160	X	X
Arts and Crafts	X	108	200	200
Music/Media/Manipulative	-	X	120	100
Large Group/Motor Activities	-	224	256	218
Workbench	-	-	X	X
Open Carpet/Platform Crawl	110	-	-	-
Wheel Toys	82	-	-	-
Toilets	16	64	64	45
Cubbies	16	102	128	96
Reception/Caregiver Area	40	40	40	40
	379	698	808	699

X means included as part of another suitable space.

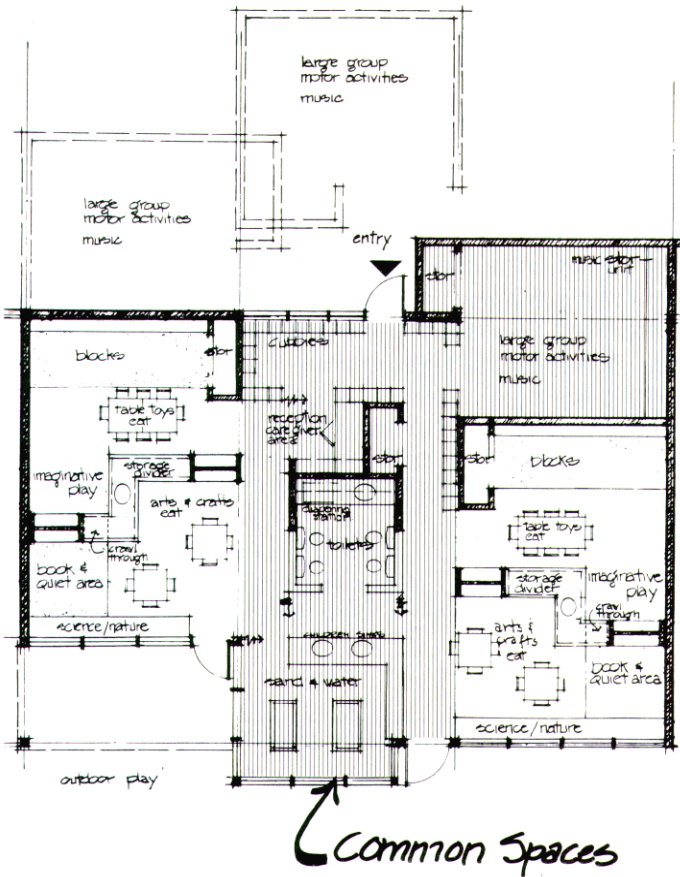
- means not included.

¹Figures are given in this summary table for infants, toddlers, preschool-age children and composite (i.e., school-age and preschool program children combined). See DG 1110-3-143 in regard to these and special mixed age modules for hourly care and centers for fewer than 60 children. These figures do not refer to Family Child Care Homes.

²Serves 20 infants rather than 10 since eating for infants is a common space activity.

³Based on the provision of one portable crib for every child served.

⁴Additional space for eating is included in other suitable activity spaces.



(4) Large Group/Motor Activities Areas

- (a) *Description.* Provide a flexible area for running, dancing, tumbling and other motor activities for toddlers, preschoolers, and school age children.
- (b) *Space Allocation.* See Table 7 - 28.
- (c) *Relationships.* Provide easy access to outdoor play area. Should be near entrance to child activity areas in order to serve as a gathering place first thing in the morning and at the end of the day.

(5) Workbench

- (a) *Description.* Accommodate 1 to 3 children with work surfaces, child-accessible storage, and controlled adult-accessible storage.
- (b) *Space Allocation.* See Table 7 - 28.
- (c) *Relationships.* Separate from quiet areas. This area is often provided as part of the large group/motor activities area.

(6) Open Carpet/Platform Crawl

(a) *Description.* A carpeted enclosed area with platforms for crawling adjacent to carpeted, open area for infant stimulation activities.

(b) *Space Allocation.* See Table 7 - 28.

(c) *Relationships.* Locate adjacent to the infant Home Base, especially the diapering station and wheel-toy area. Other activities should be visible.

(7) Wheel Toys

(a) *Description.* Provide a hard-surfaced area for push-pull toys, riding toys, swings and other toys that require an open area.

(b) *Space Allocation.* See Table 7 - 28.

(c) *Relationships.* Separate from quiet activities.

(8) Child Toilet Areas

(a) *Description.* Provide easily accessible, fairly open bathrooms that contain child-scaled fixtures or adult fixtures that can be easily used by children.

(b) *Space Allocation.* See Table 7 - 28.

(c) *Relationships.* Toilet areas should be easily accessible from outdoor play spaces and adjacent to the cubby clusters.

(9) Cubbies

(a) *Description.* Cubby clusters should be a convenient and child-accessible place for children to store their clothing and belongings.

(b) *Space Allocation.* See Table 7 - 28.

(c) *Relationships.* Locate cubby clusters for each "home base" adjacent to main circulation route from entry areas.

(10) Reception/Caregiver Area

(a) *Description.* Provide work space and storage for caregivers near the entrance to the child activity spaces.

(b) *Space Allocation.* See Table 7 - 28.

(c) *Relationships.* Provide an overview of most activities in the home base.

c. Administration Spaces

(1) Parent Area/Lobby

(a) *Description.* Provide an informal and home-like parent area/lobby in each CDS facility. Comfortable seating should be available.

(b) *Space Allocation.* See Table 7 - 29.

(c) *Relationships.* Immediately adjacent to the entry and main circulation.

(2) Reception Area

(a) *Description.* Provide work-space for a clerical/bookkeeper and a receptionist/cashier in a home-like, informal atmosphere.

(b) *Space Allocation.* See Table 7 - 29.

(c) *Relationships.* Adjacent to the entry, main circulation and offices, with a direct view of isolation.

(3) Offices

(a) *Description.* The number of offices needed varies according to the size of the facility but generally includes a director's office and administrative support space. Large centers also include an additional office for either the CSS coordinator and/or program director(s).

(b) *Space Allocation.* See Table 7 - 29.

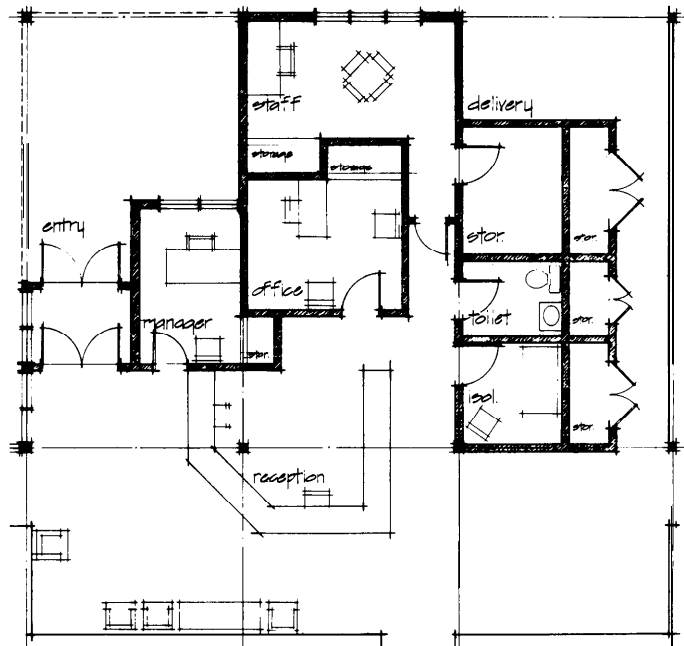


Table 7 - 29 Recommended Space Allocation for Child Development Service Centers - Administration and Support Spaces

Administration Module	Size (SF) based on the number of children served ¹			
	Small	Medium	Large	Mini-Center
Reception	160	160	60	96
Parent Area/Lobby	210	210	220	
Offices	185	215	386	240
Staff Lounge/Workroom	130	140	280	
Central Storage	92	124	172	36
Isolation	60	64	64	--
Staff/Public Toilets	90	90	192	130
Total	927	1003	1474	502
Support Module				
Kitchen ²	225	352	560	240
Delivery	35	80	120	--
Laundry	54	54	128	48
Maintenance/Janitor's Space	27	27	81	
Mechanical Equipment Room	240	330	700	144
Total³	341	513	889	288

1. Areas are based on illustrative CDS Facilities Designs of the following sizes: Small--122 children; Medium--198; Large--303, Mini-Center--60.

2. Includes food preparation area, storage pantry, trash space.

3. Not including Mechanical, which is an addition to the sq.ft./child allowance in DOD 4270.1-M.

(c) *Relationships.* Adjacent to the reception area and parent area/lobby. Director's office should have good visual contact with the entry and with activity areas.

(4) Staff Lounge/Workroom

(a) *Description.* Provide a comfortable, separated (but not isolated) area for any staff activities which require privacy and quiet, such as planning the curriculum.

(b) *Space Allocation.* See Table 7 - 29.

(c) *Relationships.* Locate near but visually isolated from office area, circulation and other public areas.

(5) Central Storage

(a) *Description.* Provide a central storage for resources used in developing curriculum as well as art supplies, audio-visual materials and shared resource materials.

(b) *Space Allocation.* See Table 7 - 29.

(c) *Relationships.* Centrally located near office area and staff lounge/workroom.

(6) Isolation Area

(a) *Description.* Provide a pleasant, home-like space adjacent to the reception/entry area for ailing children who are waiting for their parents.

(b) *Space Allocation.* See Table 7 - 29.

(c) *Relationships.* Locate adjacent to the reception area and toilets.

(7) Adult Toilets

(a) *Description.* Provide convenient bathrooms for staff and visitors.

(b) *Space Allocation.* See Table 7 - 29.

(c) *Relationships.* Near entry, office area and staff lounge/workroom.

d. Support Spaces

(1) Kitchen

(a) *Description.* The kitchen should be centrally located with respect to the child activity spaces and contain at least three work stations: receiving, food storage, and cooking and clean-up.

(b) *Space Allocation.* See Table 7 - 29.

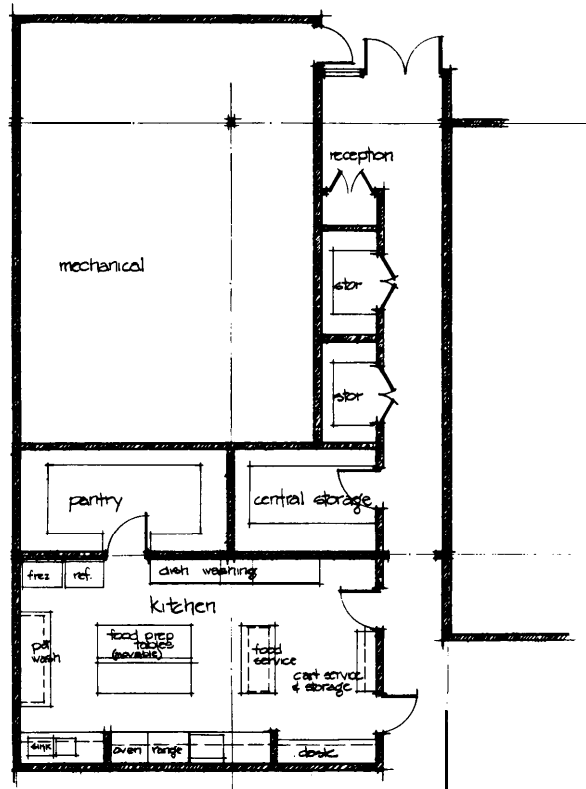
(c) *Relationships.* Adjacent to the main circulation path to child activity spaces and to receiving.

(2) Laundry

(a) *Description.* Provide an efficiently equipped and acoustically buffered laundry area close to infants' and toddlers' areas.

(b) *Space Allocation.* See Table 7 - 29.

(c) *Relationships.* Centrally located with respect to infant and toddler activity spaces.



(3) Maintenance/Janitor's Spaces

(a) *Description.* Provide a closet with a deep sink and space for pails, mops, vacuums and related cleaning supplies.

(b) *Space Allocation.* See Table 7 - 29.

(c) *Relationships.* Locate along the major circulation path.

(4) Mechanical Equipment Room

(a) *Description.* Provide space for mechanical and electrical systems in an efficient location.

(b) *Space Allocation.* In each CDS facility, provide 3.3% of the gross square footage (net assignable space plus non-assignable multiplier).

(c) *Relationships.* Centrally located, but not interfering with child activity spaces.

e. Outdoor Activity Spaces**(1) Porches and Decks**

(a) *Description.* Provide sheltered outdoor activity spaces with a quick-drying surface and a favorable sun orientation.

(b) *Space Allocation.* Provide 50 sq. ft. minimum, or 1 sq. ft. per child. (In calculating gross square footage, covered outdoor areas are counted at 50% their actual size.)

(2) Play Yards for Infants, Toddlers, Preschool-Age and School-Age Children

(a) *Description.* Provide outdoor play yards for each age group that are developmentally appropriate for the age of the children served. All play yards should have direct access to the indoor activity areas they respectively serve. Separate the play yards of older children from those of younger children.

(b) *Space Allocation.* Provide a minimum of 50 sq. ft. per infant, 100 sq. ft. per toddler, and 100 sq. ft. per preschooler or school-age child (200 sq. ft. per child is recommended).

(c) *Relationships.* Locate each outdoor activity with easy and direct access to its respective indoor area, particularly the child toilet areas. Separate infant areas from the active play spaces of older children. Locate toddler areas, if possible, between infant and preschool areas. Locate play yards for school-aged children close to community-shared public park space and playing fields, if possible.

f. Outdoor Pedestrian, Vehicular and Service Areas**(1) Port Cochere**

(a) *Description.* A roofed area should be provided in front of the entry.

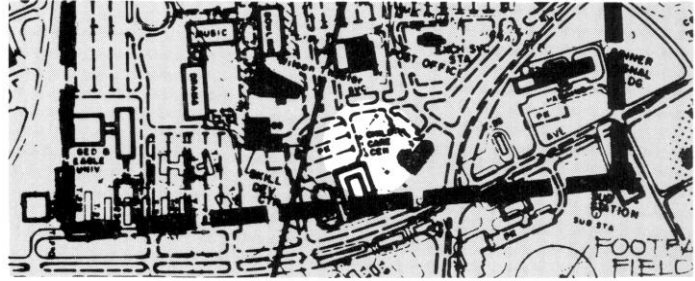
(b) *Space Allocation.* Provide 300 sq. ft. (In calculating the gross square footage of the building, calculate this area at 50% of its actual size.)

(c) *Relationships.* Adjacent to the entry, parent area/lobby and reception.

(2) Vehicular Circulation, Parking and Drives

(a) *Description.* On-site paved roadways should include bus drop-off points, parking and service areas and should provide interesting views into play yards.

(b) *Space Allocation.* Provide one staff space per 1.25 staff and one parent/visitor space per 12 children. Provide short term parking spaces, based on one space per 20 children. See DG 1110-3-143 and the ANSI criteria for other requirements.



7 - 9

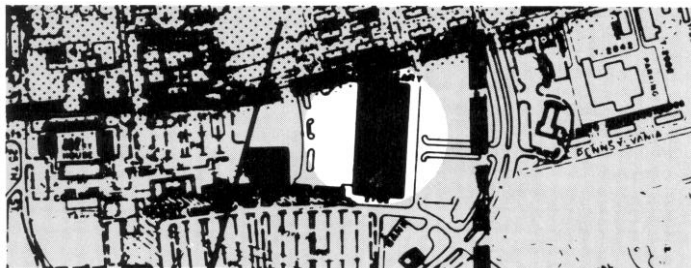
Children's Outdoor Play Environments

TM 5-803-11

The purpose of the tiered park system is to establish a "specific plan for play" that supports a range of needs for intellectual, social and physical play. The planning process for a tiered park system must account for the diverse needs of the military community as well as the physical constraints of the installation. In addition to a review of the play needs for each family housing area, existing play areas (both traditional and non-traditional such as vacant lots) are rated according to their ability to support play. Suitable sites for play are then identified, according to the availability of contiguous areas and proximity to housing, community amenities and circulation paths, among other factors. Location of Community Activity Centers should also be closely related to this park system, wherever possible.

Recommendations for improvement are then made by specifying a need for one or more of the following levels of service:

- Tier I Inter Service Regional, provides an area of at least 250 acres.
- Tier II Installation Wide, supports base-wide activities such as swimming and spectator games in an area of 100 to 200 acres.
- Tier III Community and Recreation Services, parcels of 8 to 30 acres serving several family housing areas for league athletic events and other community activities.
- Tier IV Family Housing Area Parks, sited at the center of a housing area preferably along a network of paths, with an area of 3 to 5 acres each.
- Tier V Immediate Neighborhood Parks, 1/5 to 1 acre sited along major paths used by children and adults, with provision for shelter, benches, etc.
- Tier VI Home-based Play Areas, providing play opportunities for young children in their own yards.
- Tier VII Link Parks, an area 50 to 200 feet wide connecting family housing units within the housing area through a system of paths.



7 - 1 0

Commissary Stores

Table 7 - 30 DOD Space Authorization for Commissary Stores

Volume of Sales Per ² Month in Dollars	Area (Gross SF) ¹	
	CONUS	Overseas
15,000 - 25,000	4,000	6,000
75,001 - 100,000	13,500	20,250
150,001 - 200,000	21,000	31,500
300,001 - 350,000	34,500	51,750
500,001 - 600,000	51,000	76,500
800,001 - 900,000	73,500	110,250
1,100,001 - 1,200,000	96,000	
1,500,001 - Over	122,500	

Note

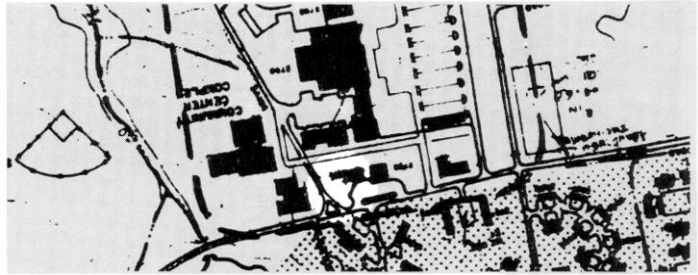
¹The square foot gross area includes all commissary store requirements. (No additional warehouse is required.)

²Above space allowance is based on display and handling areas required for value of food dollar as of 1 July 1970.

Commissary stores are central to the life of the post community, as one of the primary retail services needed. Space authorization is found in Table 7 - 30. These stores should be considered for inclusion within or adjacent to Main Post Community Activity Centers, as mutually reinforcing activity generators and service providers to the whole post community. Parking for commissary stores can effectively be shared with other community facilities, particularly for accommodating large-scale after-hours requirements when the stores are closed.

7 - 1 1

Credit Union Facilities



Although credit unions are private organizations which are not under the direct control of the Department of Defense, a properly chartered credit union may be established on any military installation to serve military personnel, their dependents and other personnel as permitted in the approved bylaws of the credit union. If the credit union on an installation refuses or fails to permit unrestricted membership of installation personnel, it will be denied free use of installation facilities. Normally, credit unions will be part of the Main Post Community Activity Center. Where space in the center is not available, it will be provided in a nearby convenient area.

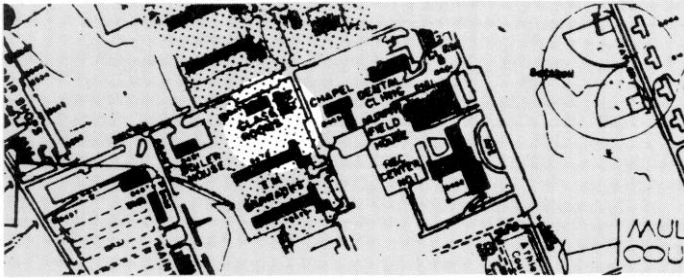
Space authorizations for credit unions are given in Table 7 - 31. The total factors are the sum of factors determined by the membership, assets, transactions, accounting method, and employees for the individual credit union, as given in Table 7 - 32. The square foot allowances may be increased by 10 percent to allow for future business expansion.

Table 7 - 31 DOD Space Authorization for Credit Unions

Factor Totals	Area (Gross SF)
Min.	800
6	1,300
8	2,200
10	2,800
12	3,500
14	4,300
16	5,200
18	6,200
20	8,200
22	10,200
24	12,200

Table 7 - 32 Factors for Space Requirements - Credit Unions

<u>1. Members</u>		<u>Factor</u>
0 - 1,000		1
1,000 - 2,500		2
2,501 - 7,500		3
7,501 - 12,000		4
12,001 - 20,000		5
Over 20,000		6
<u>2. Assets</u>		<u>Factor</u>
0 - \$ 100,000		1
\$ 100,001 - 500,000		2
500,001 - 1,500,000		3
1,500,001 - 5,000,000		4
Over 5,000,000		5
<u>3. Transactions Per Day</u>		<u>Factor</u>
0 - 99		1
100 - 299		2
300 - 499		3
500 - 749		4
750 - 999		5
<u>4. Employees</u>		<u>Factor</u>
2- 5		1
6- 9		2
10 - 13		3
14 - 17		4
18 - 21		5
22 - 25		6
Over 25		7
<u>5. Accounting</u>		<u>Factor</u>
Machines		1
Manual		2



7 - 1 2

Education Centers

DG 1110 - 3 - 112

Table 7 - 33 DOD Space Authorization for Education Centers

Military Strength	Area (Gross SF)	OJT ¹	CAC ¹
Up to 250	Accomodate in other facilities	-	-
251 - 1,000	4,125	300	500
3,001 - 5,000	13,500	700	500
7,001 - 10,000	19,800	1,200	500
15,001 - 20,000	31,800	2,200	500
25,001 - 30,000	40,500	3,200	500
40,001 - 50,000	55,000	4,200	500
50,000 - 60,000	60,000	4,700	500

¹All newly constructed Education Centers should provide additional office space for the base personnel who manage the On-The-Job Training (OJT) Program and the Career Advisory and Counseling (CAC) Section.

The Army Continuing Education System¹ provides voluntary educational opportunities primarily for active duty military personnel. The main intent of the program is to assist soldiers in the development of a career related to his or her specialty and to provide training that can be applied in post-service employment. The system also offers a basic level of educational opportunities toward, for example, completion of a high school equivalency diploma.

These instructional programs reflect the Army's concern for a wide range of educational needs and include the following:

- Basic Skills Educational Programs, in order to expand basic literacy skills.
- High School Completion Program, offering a State issued high school equivalency certificate or high school diploma.
- Associate, Baccalaureate and Graduate Degree Programs.
- Skill Development Programs, providing technically-oriented, vocational training.
- Language Programs, providing advanced language instruction, as well as English as a second language.
- Skill Recognition Programs, to assist the soldier in seeking recognition in the private sector for the skills he or she learned in the Army, through accreditation of military experience, Army apprenticeship program, certification, and accreditation of TRADOC Service Schools.

¹These facilities are referred to as "Education Centers" in the DOD Construction Criteria and as "Army Continuing Education Systems Centers" (ACES) in the related design guide, DG 1110-3-112.

a. Staff Spaces

(1) *Description.* Staff spaces include a director's office, administrators' office, information/registration/clerk/typist space and counselors' spaces. Both the director and administrator require an area for conferences. The clerical area serves clerks and typists as well as a registrar who provides visitor information.

(2) *Space Allocation.* See Table 7 - 34.

(3) *Relationships.* The director's office should be adjacent to the clerks', typists' and administrators' areas. Registrar and information spaces should be adjacent to the main entrance. Counselors should be as close as possible to the information and registration space.

b. Academic Spaces

(1) Classroom, Lecture Room and Seminar Room.

(a) *Description.* Provide separate space for general purpose classes, a larger space for testing, assemblies, films, public meetings, seminars, small classes and conferences.

(b) *Space Allocation.* See Table 7 - 34.

(c) *Relationships.* Locate these spaces adjacent to other academic spaces. The lecture room should be near the main entrance if possible so that visitors can easily locate the room.

(2) MOS Library

(a) *Description.* This area provides storage and work-space for the use of MOS related material.

(b) *Space Allocation.* See Table 7 - 34.

(c) *Relationships.* The library should be adjacent to the "self-paced instruction" room and centrally located with respect to other academic spaces.

(3) Self-Paced Instruction

(a) *Description.* This space is used for individual study of MOS-related and other educational material that involve audio-visual aids.

(b) *Space Allocation.* See Table 7 - 34.

(c) *Relationships.* Locate adjacent to the MOS library.

(4) Language Laboratory

(a) *Description.* Provide an area for students to study foreign language tapes, make their own recordings and practice speaking.

(b) *Space Allocation.* See Table 7 - 34.

(c) *Relationships.* Locate in proximity to other academic spaces. Provide space for taping and for storage that is immediately accessible to the laboratory.

(5) Science Laboratory

(a) *Description.* Provide laboratory space for physics, biology and chemistry. Separate but adjacent spaces are required for special projects and the preparation of materials and storage.

(b) *Space Allocation.* See Table 7 - 34.

(c) *Relationships.* Locate in proximity to other academic spaces.

(6) Testing Room

(a) *Description.* Provide an area for testing and general purpose classes, including separate spaces for observation and grading (of examinations), and storage of extra furniture.

(b) *Space allocation.* See Table 7 - 34.

(c) *Relationships.* Locate near the classrooms and lecture rooms.

(7) Rehearsal/Recording Studio

(a) *Description.* Provide an area for rehearsals of presentations and for video taping lectures.

(b) *Space Allocation.* See Table 7 - 34.

(c) *Relationships.* Locate near lecture and seminar areas. This room should be centrally located with respect to other academic areas.

Table 7 - 34 Recommended Space Allocation for Education Centers

Sub-Space	Size (Gross SF) based on Military Strength ²		
	6,000	10,500	21,000
Staff Spaces	1,805	2,585	3,995
Director	230	230	230
Administrators (3)	170	345	520
Clerks (4)	115	230	460
Typists (4)	170	170	345
Registrar	115	115	115
Information and Storage	260	290	405
Counselors (17)	575	1,035	1,750
Reference	170	170	170
Academic Spaces	11,685	11,685	14,275
Classrooms (4 rooms)	1,725	1,725	3,450
Lecture rooms	1,725	1,725	1,725
Seminar rooms (5 rooms)	1,295	1,295	2,160
Self-Paced Instruction	865	865	865
MOS Library	865	865	865
Language Lab	865	865	865
Science Lab	1,725	1,725	1,725
Testing Room (2 classrooms)	2,190	2,190	2,190
Rehearsal/Recording Studio	430	430	430
Vocational Training Spaces ¹		8,365	14,405
Auto Mechanics Shop	-	-	6,730
Masonry Shop	-	-	4,770
Communications/Industrial			
Electronics Shop	-	-	2,905
Auto Body Repair Shop	-	5,835	-
Heating/Refrig./AC Shop	-	2,530	-
Support Spaces	3,340	3,925	5,070
Staff Lounge	200	210	275
Student Lounge	740	785	1,005
Vending Area	405	430	545
Training Aids Preparation	540	575	730
Toilets - men	470	650	805
women	180	420	610
Receiving/General Storage	670	710	915
Janitor Closet	140	145	185
Total Education	16,830	26,560	37,745

¹The list of vocational training spaces presented here is exemplary of a typical building program. See Table 7 - 35 for a complete list of square footage requirements for each type of shop, at a given occupancy load.

²A factor of 15% to translate net square footage into gross square footage has been included in all figures, instead of appearing as a separate line item added to the net total, as is done in the ACES Design Guide.

c. Vocational Training Spaces

(1) *Description.* Provide a laboratory space for lectures, demonstrations and experimentation for vocational training activities such as:

- Heating/Refrigeration/Air Conditioning
- Construction Electrician
- Communications/Industrial Electronics
- Masonry
- Carpentry
- Plumbing
- Diesel Mechanics
- Auto Mechanics
- Welding
- Auto Body Repair
- Small Engine Repair

Each of these spaces require ample general storage (and possibly secure storage) for tools and an area for conferences.

(2) *Space Allocation.* See Table 7 - 35.

(3) *Relationships.* These shops require their own service entrances. The heating/refrigeration/air conditioning shop should be near the plumbing and construction electrician shop. The communication/industrial electronics shop should be near the construction electrician shop. The masonry shop should be in proximity to carpentry, plumbing and H/R/AC. The diesel shop should be adjacent to the auto mechanics and plumbing shops. The auto body repair shop should also be closely associated with the building.

Table 7 - 35 Space Allocation for Vocational Training Spaces

Sub-Space	Size (Gross SF) based on Occupancy Load (No. of Persons)
	20
Heating/Refrigeration/ Air Conditioning	2,530
Construction Electrician	2,815
Communications/Industrial Electronics	2,905
Masonry	4,770
Carpentry	5,375
Plumbing	2,820
Diesel Mechanics	3,650
Auto Mechanics	6,725
Welding	5,145
Auto Body Repair	5,840
Small Engine Repair	4,225

d. Support Spaces

(1) Staff Lounge and Student Lounges

(a) *Description.* Provide separate lounges for staff and students to use for informal meetings, lunches and relaxation.

(b) *Space Allocation.* See Table 7 - 34.

(c) *Relationships.* Both staff and student lounges should be near the vending area. The staff lounge should be near staff offices. At least one student lounge should be near the main entrance, for visitors to use. Several small lounges are often used more successfully than a single, large centralized lounge.

(2) Vending Area

(a) *Description.* Provide an area for vending machines, an eating area for snacks and a separate space for storage.

(b) *Space Allocation.* See Table 7 - 34.

(c) *Relationships.* Locate the vending area adjacent to the student lounge and staff lounge.

(3) Training Aids Preparation

(a) *Description.* Provide an area in which graphic materials can be prepared and duplicated.

(b) *Space Allocation.* See Table 7 - 34.

(c) *Relationships.* Locate near the staff offices and receiving room.

(4) Toilets

(a) *Description.* Provide toilets for staff and students.

(b) *Space Allocation.* See Table 7 - 34.

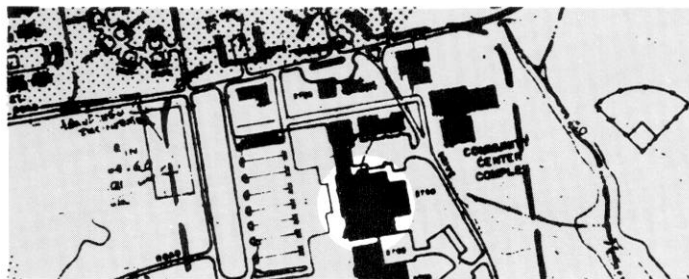
(c) *Relationships.* Toilets should be easily accessible from academic spaces, the main entrance and lounges.

(5) Receiving and General Storage

(a) *Description.* Provide an area for receiving, unpacking and temporary storage of educational materials.

(b) *Space Allocation.* See Table 7 - 34.

(c) *Relationships.* Receiving should be immediately accessible from the service entrances and close to staff spaces.



7 - 13

Exchange Facilities

Table 7 - 36 DOD Space Authorization for Exchange Amusement Centers

Military Strength	Area (Gross SF) ¹
501 - 1,000	1,200
1,001 - 3,000	1,800
3,001 - 5,000	2,400
5,001 - 7,000	3,800
7,001 - 10,000	5,000
10,001 - 15,000	6,500
15,001 - 20,000	8,500
20,001 - 25,000	11,000
25,001 - 30,000	12,800
For each add'l 5,000	Add 1,800

¹If the amusement center is not located contiguous to a branch exchange, cafeteria or snack bar, space for a feeding facility, if required, shall be provided out of the space authorized for amusement centers.

Table 7 - 37 DOD Space Authorization for Branch Exchanges

Installation Military Strength	Number of Authorized ¹ Branch Exchanges
2,500 - 5,000	1
5,001 - 7,500	2
7,501 - 10,000	3
For each additional increment of 2,500 or portion thereof	1

¹A gross area of 7,000 square feet is authorized for each branch exchange, however, space allowances for individual branch exchange facilities may be adjusted upward or downward as long as the total space authorized for branch exchanges is not exceeded. Branch exchange facilities may be utilized for any of the authorized exchange activities or service outlets as required.

The exchange facilities authorized by DOD Directive 1330.9 include branch exchanges, cafeterias, snack bars and stands, service stations, retail stores and amusement centers. The exchange may also provide services (as adjuncts to the main retail store) such as barber shop, coin operated laundry, optical shop, shoe repair and tailor. Central administrative facilities shall be provided according to the DOD criteria. Administrative space required for an individual exchange facility is concluded as part of the space criteria for the individual facility.

a. Amusement Centers

(1) *Description.* Amusement centers are entertainment activities which combine coin operated games and refreshments. They usually include a game area (e.g., pool tables, pinball and skill games), food and drink vending machines, a limited snack counter (in larger activities), and toilets.

(2) *Space Allocation.* See Table 7 - 36.

(3) *Relationships.* Amusement centers may be provided as independent activities or operated in conjunction with a branch exchange, cafeteria, or snack bar. Integrated with Community Activity Centers, their functions should be related to comparable and compatible Morale Support Activities, such as social recreation and bowling, and duplication of service eliminated.

b. Branch Exchanges

(1) *Description.* Branch exchanges provide local retail service to sub-areas of installations.

(2) *Space Allocation.* See Table 7 - 37.

(3) *Relationships.* Locate branch exchange wherever necessary in order to provide convenient access throughout the installation. These locations should be coordinated and potentially integrated with Local Community Activity Centers, where appropriate service territory overlaps exist.

c. Exchange Cafeterias, Snack Bars and Snack Stands

(1) *Description.* A cafeteria or snack bar may be provided in conjunction with the exchange main retail store, preferably as an element of the Community Activity Center. At installations with a military strength over 3,000 snack stands may be provided to supplement food exchange services.

(2) *Space Allocation.* See Table 7 - 38 and 7 - 39.

(3) *Relationships.* Snack bars, snack stands and cafeterias should be easily accessible and visible from areas of intense activity. They should be located to reinforce the attractive, multi-functional design of Community Activity Centers, and to serve the diverse range of users of the facilities.

Table 7 - 38 DOD Space Authorization for Exchange Cafeterias and Snack Bars

Military Strength	Area (Gross SF)	
	CONUS	Overseas
0 - 500	1,850	2,200
501 - 1,000	2,700	3,200
1,001 - 3,000	5,400	6,300
3,001 - 5,000	7,400	8,000
5,001 - 7,000	9,300	9,800
7,001 - 10,000	10,700	11,300
10,001 - 15,000	12,600	13,300
15,001 - 20,000	16,800	17,800
20,001 - 30,000	18,600	19,600
For each add'l 5,000	Add 500	Add 500

Table 7 - 39 DOD Space Authorization for Exchange Snack Stands

Military Strength	Number of Stations (900 GSF each)
3,001 - 5,000	1
5,001 - 10,000	2
10,001 - 20,000	3
20,001 - 30,000	4
For each add'l 5,000	Add 1

d. Gasoline, Car Wash, and Service Stations and Service Centers

(1) *Description.* Gasoline and service stations, service centers, supplemental gasoline stations and car wash facilities are provided on the basis of either installation military strength or the total number of vehicles registered to authorized customers.

(2) *Space Allocation.* See Table 7 - 40 and 7 - 41.

(3) *Relationships.* Gasoline, car wash and service stations may be located in Main Post Center complexes. Typically detached from other facilities and located at the entrance to, or edge of, the parking area. Their accommodation may be combined or coordinated with auto crafts shops. Convenient automobile access, non-interference and non-intrusion upon other functions are important siting considerations.

Table 7 - 40 DOD Space Authorization for Gasoline and Service Stations

Installation Military Strength	Or	Authorized Customer Registered Vehicles	Gasoline & Service Stations Area (Gross SF)	Service Centers Add'l Area (Gross SF)
0 - 500		0 - 300	600	-
501 - 1,000		301 - 600	1,740	-
1,001 - 3,000		601 - 1,800	2,160	380
3,001 - 5,000		1,801 - 3,000	2,830	950
5,001 - 7,000		3,001 - 4,300	3,250	1,140
7,001 - 10,000		4,301 - 6,100	4,140	2,100
10,001 - 15,000		6,101 - 9,100	4,560	4,300
15,001 - 20,000		9,101 - 12,200	6,500	4,610
20,001 and Up		12,201 and Up	9,750	4,800

Table 7 - 41 DOD Space Authorization for Car Wash Facilities

Installation Military Strength	Or	Authorized Customer Registered Vehicles	Number of Wash Bays	Service Centers Add'l Area (Gross SF)
800 - 3,000		500 - 1,800	1	720
3,001 - 5,000		1,801 - 3,000	2	1,180
5,001 - 7,000		3,001 - 4,000	3	1,640
7,001 - 10,000		4,001 - 6,000	4	2,100
10,001 - 15,000		6,001 - 9,000	5	2,560
15,001 - 20,000		9,001 - 12,000	6	3,020
20,001 and Up		12,001 and Up	7	3,480

e. Main Retail Stores

(7) *Description.* The main retail store is the major non-food sales resource on the post. It comprises sales area, stock area, office space, toilets, and entrance facilities, as required.

(2) *Space Allocation.* DOD space authorization is determined by:

- The total number of married military sponsors (officers and enlisted personnel, excluding married enlisted personnel in overseas unaccompanied areas), their dependents and single officers (and in overseas commands the authorized civilian employees and their dependents).
- The number of single enlisted personnel. Married enlisted personnel in overseas unaccompanied areas are counted as single enlisted personnel.
- The number of retired military personnel (sponsors only) patronizing the exchange.
- The mission assigned to the military installation.
- Availability of family housing on and off the installation.
- Availability of comparable commercial shopping facilities.

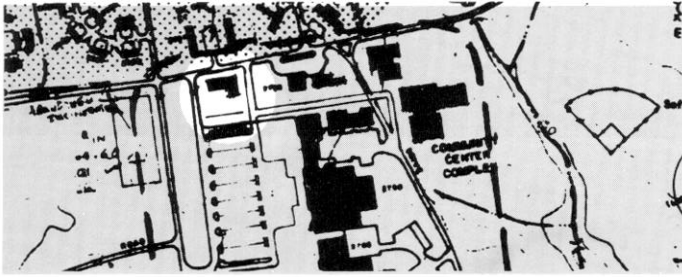
(3) *Relationships.* As the major retail focus for the post community, the main exchange is a heavy usage generator and the Community Activity Center functions would greatly benefit from co-location with this facility. Convenient access routes to and from the main exchange entrance past other functional spaces will provide helpful exposure. Parking and other support facilities can be shared. Some specific exchange functions may be intermingled and consolidated with MSA and community facilities, to encourage more mutual interaction and attraction.

f. Service Outlets

Outlet facilities for a variety of basic services are authorized in the Construction Criteria Manual, normally as adjuncts of the main retail store. They include the following facilities:

- Barber Shop
- Beauty Shop
- Laundry, Coin Operated
- Optical Shop
- Personal Services
- Portrait Studio
- Radio-TV repair
- Shoe Repair
- Tailor
- Valet
- Watch Repair

For detailed space authorizations and criteria for these facilities, see DOD 4270.1-M.



7 - 1 4

Family/Community Service Centers

Table 7 - 42 DOD Space Authorization for Family/Community Service Centers

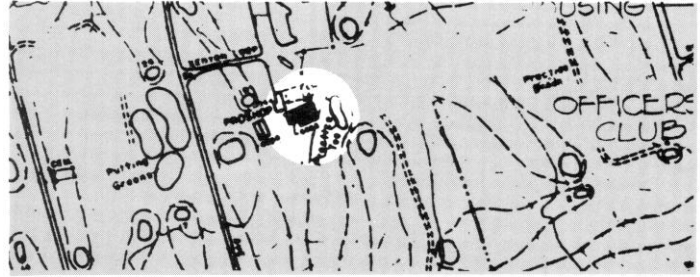
Military Strength ¹	Area (Gross SF)
0 - 100	Provide in other facilities
101 - 1,000	650
1001 - 3,000	1,150
3,001 - 5,000	1,500
5,001 - 7,000	2,500
7,001 - 10,000	2,750
10,001 - 15,000	3,000
Over 15,000	3,200

¹Military strength includes active duty plus 25% of dependants.

²For installations exceeding 7,000 military strength, an additional 900 square feet may be provided for a classroom.

Family/community service centers may be established as required to provide services to military members and their families. This assistance may include counseling about passports, voting, legal matters, insurance, military separation, retirement, careers, housing, personal financial management, transportation, loans, grants, social workers, emergency leave, handicapped children, etc. The facility will include space for reception, administration, household loan items, rest rooms, counseling rooms, waiting room, storage and conference room. Space allowances for family/community service centers are shown in Table 7 - 42.

Users of family/community service centers will benefit from the convenience of co-location of these facilities with other community facilities. However, as many of the services involved here are private or intimate in nature, it is appropriate to place them in a more secluded, less exposed position. At the edge of, or nearby, a Main Post Community Activity Center, or among its more quiet, administrative functional areas, are appropriate locations to consider.



7 – 15

Golf Facilities

At installations where the necessary land is available for the purpose, and where there are no foreseeable operational requirements for the land, golf facilities may be provided as shown in Table 7 - 43.

The planning for a golf course should consider the amenity potential of juxtaposing housing and this large open green space. Community facilities may also benefit from adjacency to and overview of this green area. Golf club houses and other support facilities may, if the siting is convenient, be co-located or consolidated with the Main Post Community Activity Center. Facility sharing potentials exist in lounges, games, snack bar, and support spaces between golf and other active sports and social recreation functions.

Table 7 - 43 DOD Space Authorization for Golf Facilities

<u>Military¹ Population</u>	<u>Golf Course² No. of Holes</u>	<u>Golf Club House³ Area (Gross SF)</u>	<u>Equipment Bldg.³ Area (Gross SF)</u>
2,000 - 4,000	9	6,500	1,500
4,001 - 8,000	18	8,000	2,000
8,001 - 12,000	27	9,000	2,500
12,001 and Over	36	10,000	3,000

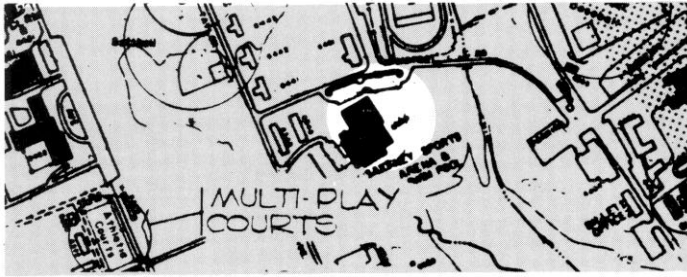
¹Military population will consist of military strength plus 35% of their dependents and 25% of retired military personnel supported.

²A pitch-and-putt course shall be considered the equivalent of a golf course of the same number of holes.

³Separate facilities may be provided for each separate golf course, however, the total combined space shall not exceed these allowances.

⁴Additional sq.ft. for cart storage may also be included as required.

Note: Driving Range: Each military installation is authorized a driving range. Size as required.



7 - 1 6

Gymnasiums and Physical Fitness Centers¹

DG 1110-3-128

Table 7 - 44 DOD Space Authorization for Gymnasiums and Physical Fitness Centers

Military Population ¹	Area (Gross SF)
1 - 250	None, combine with Multipurpose Recreation Building
251 - 1,000	1 - 14,000 sq. ft. all purpose gym
1,001 - 3,300	1 - 21,000 sq. ft. gym
3,301 - 6,600 ³	2 - 21,000 sq. ft. gyms
6,601 - 10,000	3 - 21,000 sq. ft. gyms
10,001 - 15,000 ²	4 - 21,000 sq. ft. gyms

¹Military population includes active duty plus 25% of their dependents.

²For each 3,300 above 15,000 an additional gymnasium of 21,000 sq. ft. may be provided.

³At installations over 4,000 a single large facility-Physical Fitness/Athletic Complex-may be provided.

Table 7 - 45 DOD Space Authorization for Physical Fitness/Athletic Complexes

Active Duty Military Strength	Area (Gross SF)
4,000 - 5,000	30,000
5,000 - 7,000	40,000
7,001 - 10,000	50,000
10,001 - 15,000	62,000
each additional 15,000	62,000

The Army Morale Support Activities program should provide a wide range of athletic and recreational activities in order to support the mental and physical well-being of

Army personnel, their families and other members of the military community. Physical fitness centers should augment existing sports facilities with well-rounded athletic programs accessible to all members of the military community. The centers must accommodate simultaneous use, by adults and dependent youth of both sexes, of all activity areas except lockers, showers, toilets, etc. The physical fitness center (category code 740 - 28) should be centrally located, able to accommodate large tournaments, open to military dependents. Barracks-related gymnasiums and other sports facilities (category code 740 - 34) are designed and located primarily for local service to troop units.

Major athletic and entertainment events create special problems in traffic control and parking accommodations. The siting of the physical fitness center should discourage heavy traffic flow through housing or community center areas, and minimize the impact of heavy traffic on installation arterials. Barracks areas generally incorporate adequate athletic facilities in the form of gymnasiums and outdoor playing courts. Facilities for dependents may be relatively limited, therefore these users are more in need of the center facility. The physical fitness center should be sited approximately equidistant from troop billeting and family housing, in order to encourage general utilization. The physical fitness center may be located together with, or convenient to, the Main Post Center because they serve complimentary and mutually reinforcing functions. However, space, access and parking requirements may not permit this co-location.

¹This section also lists DOD requirements for Outdoor/Indoor Swimming Pools, Indoor Handball/ Racquetball and/or Squash Courts, and Physical Fitness/Athletic Complexes.

Table 7 - 46 Recommended Space Allocation for Physical Fitness Centers

Sub-Space	Size (Gross SF) based on Military Population	
	7,000-10,000	10,000-15,000
Activity Areas	43,260	55,030
Gymnasium	23,230	23,230
Platform	2,070	2,070
Swimming Pool	11,560	18,260
Handball/Raquetball Courts	1,830	3,910
Exercise Rooms	4,570	7,560
Staff Spaces	775	775
Director's Office	175	175
Program Directors'/Clerks' Office	400	400
Pool Office	200	200
Support Spaces	7,205	7,900
Trainer/First-Aid	280	280
Locker Rooms	1,655	2,130
Shower Rooms	605	765
Participants' Toilets	670	960
Sauna Room	230	230
Laundry	115	115
Equipment Issue Room	460	575
Lobby	1,725	1,380
Concession	230	230
Public Toilets	1,235	1,235
Total Physical Fitness Center	51,240	63,705

a. Activity Areas

(1) Gymnasium

(a) *Description.* At least four kinds of activities are considered in gymnasium design - spectator and non-spectator sports, entertainment events, and assemblies. Seating is required for entertainment events and spectator sports. Several non-spectator events may occur simultaneously. Space is also required for storage of miscellaneous equipment such as mats, standards and nets for tennis, volleyball, and the like.

(b) *Space Allocation.* See Table 7 - 44 and 7 - 47.

(c) *Relationships.* Lockers for men and women, gym storage and a service dock should be adjacent.

Table 7 - 47 Space Allocation for Gymnasium

Sub-Space	Size (Gross SF) based on Military Population	
	7,000-10,000	10,000-15,000
Gymnasium	22,770	22,770
Storage	460	460
Total	23,230	23,230

(2) Platform

(a) *Description.* The platform will be used as a performance and staging area for big entertainment events. Space is also required for storage of lighting equipment, instruments, stage drapes and all other items related to the presentation of musical and/or theatrical performances.

(b) *Space Allocation.* See Table 7 - 48.

(c) *Relationships.* The platform must be an integral component of the gymnasium, preferably with direct access to storage and general circulation.

Table 7 - 48 Space Allocation for Platform

Sub-Space	Size (Gross SF) based on Military Population	
	7,000-10,000	10,000-15,000
Platform	1,380	1,380
Male Dressing Room	230	230
Female Dressing Room	230	230
Storage	230	230
Total	2,070	2,070

(3) Swimming Pool

(a) *Description.* The swimming pool will be used for recreational activities including family swimming and individual fitness efforts. Activities also include competitive diving and swimming, with related spectator seating provision, as well as instruction in swimming, scuba diving, etc.

(b) *Space Allocation.* See Table 7 - 49 and 7 - 50.

(c) *Relationships.* The swimming pool should be accessible from the locker rooms and office area. Separate, "dry" access to the spectator seating area is also required.

Table 7 - 49 DOD Space Authorization for Outdoor/Indoor Swimming Pools

Military Population ³	Number of Pools Authorized ^{1,2}	
	25 Meter (5,177 sq. ft.)	50 Meter (8,910 sq. ft.)
1 - 250 ⁴	-	None
251 - 1,500	1	-
1,501 - 3,000	-	1
3,001 - 5,000	1	1
5,001 - 10,000 ⁵	1	2

¹One installation pool may be enclosed to allow for year round utilization. The building will not exceed 10,000 square feet for a 63' x 82' - 2" pool, and will not exceed 16,000 square feet for a 54' x 165' pool, exclusive of authorized bathhouse space.

²One bathhouse of 3,700 square feet gross area may be provided with each pool.

³Military population includes all active duty personnel, 70% of their dependents and 10% of the retired military personnel served.

⁴One pool, not to exceed 800 square feet, may be provided as required.

⁵One 54' x 165' pool with 6,000 square foot bathhouse may be authorized for each increment of 4,000 military strength over 10,000.

Table 7 - 50 Space Allocation for Swimming Pool

Sub-Space	Size (Gross SF) based on Military Population	
	7,000-10,000	10,000-15,000
Pool and Deck	10,120	16,820
Spectator Seating	1,210	1,210
Storage	230	230
Total	11,560	18,260

(4) Handball/Racquetball Courts

(a) *Description.* Provide indoor handball and racquetball courts designed for both singles and doubles. Provisions should be made for spectator viewing.

(b) *Space Allocation.* See Table 7 - 51 and 7 - 52

(c) *Relationships.* All courts for handball, racquetball and squash should be clustered together and located with convenient access to and from locker rooms. A waiting area for the players should be located so that the court entrances are clearly visible. This area should be part of the access corridor. Spectator viewing spaces should be accessible from general building circulation.

Table 7 - 51 DOD Space Authorization for Indoor Handball/Racquetball and/or Squash courts:¹

Military Strength	Total Number of Courts ²
101 - 500	1
501 - 1,000	2
1,001 - 2,000	4
2,001 - 3,500	6
3,501 - 5,500	8
5,501 - 7,500	10
7,501 - 10,000 ³	12

¹These courts are additive to those in gymnasiums and physical fitness/athletic complexes.

²Courts should not exceed 1,200 gross square feet per court, and when applicable have common walls.

³For each increment of military strength of 3,000 above 10,000, an additional two courts may be provided.

Table 7 - 52 Space Allocation for Handball/Racquetball Courts

Sub-Space	Size (Gross SF) based on Military Population	
	7,000-10,000	10,000-15,000
courts	1,600	3,680
Spectator Area	230	230
Total	1,830	3,910

Table 7 - 53 Space Allocation for Exercise Rooms

Sub-Space	Size (Gross SF) based on Military Population	
	7,000-10,000	10,000-15,000
Gymnastics	2,760	4,600
Body Building	1,150	2,300
Apparatus Storage	660	660
Total	4,570	7,560

(5) Exercise Rooms

(a) *Description.* Exercise rooms consist of two main spaces. One area is primarily for gymnastics, that is occasionally used for individual exercise, combative sports and dance instruction. The other area is used primarily for body building, individual weight training, exercise and combative sports. This area may also be used for conferences and classes. A separate space is required for storage of gymnastic and exercise apparatus.

(b) *Space Allocation.* See Table 7 - 53.

(c) *Relationships.* The exercise rooms should be located adjacent to, or near, the gymnasium.

b. Staff Spaces

(1) Director's Office

(a) *Description.* Provide an office for the director who operates the physical fitness center. The director holds frequent conferences with staff and visitors.

(b) *Space Allocation.* See Table 7 - 46.

(c) *Relationships.* The director's office should be adjacent to the program director's office, and have priority views of, and access to, the activity areas.

(2) Program Directors' and Clerks' Office

(a) *Description.* This program should provide space for activity program directors who oversee various segments of the physical fitness program and clerical personnel. It will generally be a visitor's first stop upon entering the building.

(b) *Space Allocation.* See Table 7 - 54.

(c) *Relationships.* This office should be adjacent to the director's office, and the lobby, and should have views and access to the activity areas.

(3) Pool Office

(a) *Description.* The pool office will be occupied at all times when the pool is in operation. It will be staffed by personnel performing supervisory and administrative functions, including control of activities and life-guarding.

(b) *Space Allocation.* See Table 7 - 55.

(c) *Relationships.* The pool office should be located at the diving end of the pool, and should have a full-width window for complete view of the pool from the office. Also, the office should provide access to the pool for swimmers, and to the corridor for non-swimmers.

Table 7 - 54 Space Allocation for Program Directors' and Clerks' Office

Sub-Space	Size (Gross SF) based on Military Population	
	7,000-10,000	10,000-15,000
Sports Officer	155	155
Program Director	155	155
Clerical Area	90	90
Total	400	400

Table 7 - 55 Space Allocation for Pool Office

Sub-Space	Size (Gross SF) based on Military Population	
	7,000-10,000	10,000-15,000
Pool Manager	115	115
Lifeguards	85	85
Total	200	200

c. Support Spaces

(1) Trainer/First Aid Room

(a) *Description.* This room is used mainly for athletic training (to protect against injuries), first aid, and care of athletic injuries. It will also be used for first aid training.

(b) *Space Allocation.* See Table 7 - 46.

(c) *Relationships.* The trainer/first aid room should be near the locker rooms and equipment issue room. Adequate doors and corridors should be provided for access to ambulance services. Access from exterior and interior athletic facilities should be as direct as possible, and free from wheelchair or stretcher barriers.

(2) Locker Rooms

(a) *Description.* Locker rooms will be changing, dressing, and storage areas for participants in athletic and recreational activities.

(b) *Space Allocation.* See Table 7 - 46.

(c) *Relationships.* The locker rooms should be adjacent to the equipment issue room and trainer/first aid room. Provide direct access from the locker room to the sauna, toilet, and drying/shower area, gymnasium and swimming pool.

(3) Shower Rooms

(a) *Description.* Showers are used before entering the pool area and for washing after swimming or other athletics. A group shower and separate drying room should be provided for men. Individual shower and drying spaces should be provided for women.

(b) *Space Allocation.* See Table 7 - 46.

(c) *Relationships.* The showers should be adjacent to the locker room with access from the locker room to the pool, through the shower. Access from the men's locker room to the showers should be through the drying room.

(4) Participant Toilets

(a) *Description.* Provide toilets for users of the locker rooms, pool, gymnasium and other facilities.

(b) *Space Allocation.* See Table 7 - 46.

(c) *Relationships.* The Toilets should be adjacent to the pool, gymnasium, and exercise rooms.

(5) Sauna Room

(a) *Description.* Saunas are used most often after athletic and recreational activities.

(b) *Space Allocation.* See Table 7 - 46.

(c) *Relationships.* Each sauna room should have direct access from the locker room.

(6) Laundry

(a) *Description.* In the laundry area, apparel and towels are washed, dried, and stored until transferred to the equipment issue area from where they will be distributed to the users of the facility.

(b) *Space Allocation.* See Table 7 - 46.

(c) *Relationships.* The laundry should be adjacent to, and accessible from, the equipment issue room.

(7) Equipment Issue

(a) *Description.* This room is used to issue non-bulky recreational and athletic equipment, towels, team uniforms and equipment. A separate storage space is required to store uniforms and seasonal indoor/outdoor recreational equipment that may require security.

(b) *Space Allocation.* See Table 7 - 46.

(c) *Relationships.* This space should be accessible from the locker rooms and activity areas. It should be adjacent to the laundry room. Storage for outdoor equipment may be contiguous or separate.

(8) Lobby

(a) *Description.* All participants, visitors, and spectators enter and leave the center through the lobby. All reception functions should be performed here, or in immediately adjacent spaces. Visitors should gain a sense of the range of activities of the center from views and information available in the lobby.

(b) *Space Allocation.* See Table 7 - 46.

(c) *Relationships.* Activity areas should be visible from the lobby and its extensions (spectator galleries and corridors). Spectator seating, lockers and playing areas should be accessible. The lobby should provide direct access to staff spaces, public toilets, and vending.

(9) Concession/Vending

(a) *Description.* This area contains vending machines for use by staff, participants and spectators. During special events, concession counters will be set up in this area for processing a greater number of people.

(b) *Space Allocation.* See Table 7 - 46.

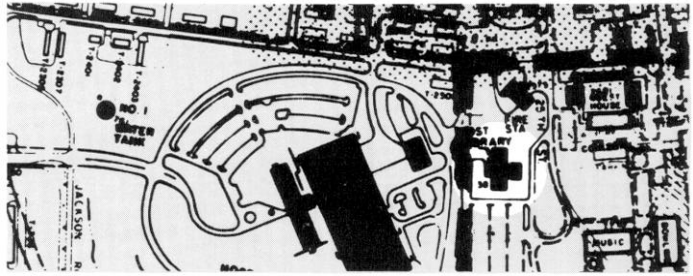
(c) *Relationships.* This area should be adjacent to the lobby and, if possible, located with convenient access to an outdoor sundeck.

(10) Public Toilets

(a) *Description.* These toilets are used primarily by visitors, spectators and staff.

(b) *Space Allocation.* See Table 7 - 46.

(c) *Relationships.* Locate adjacent to the lobby area with easy access to and from the spectator viewing area. No spectator should travel more than 150' to a toilet.



7 - 17

Libraries: Main, Branch and Service Centers DG 1110-3-110

The primary objectives of the Army library program are to promote the intelligent use of information media and to support education and training programs.

The Main Library provides the service of both a public and an academic library. It should facilitate users who are browsing as well as those who need specific reference and reserve material. The main library serves the entire military community including active and retired military personnel and their dependents. Civilian employees may also have borrowing privileges. The main library houses the administrative offices and technical services that operate the main collection, branch libraries, field libraries and bookmobiles. Space should be provided for club and committee meetings, discussion groups and small conferences.

When justified by the requirements of a particular installation, branch libraries (not exceeding 4,000 square feet) are sometimes provided to support an education center. The area authorized for multiple increments can be consolidated in a single branch if the population density can accommodate it.

Space allowances for main Libraries may be increased by 10% where the facility is designated as a command reference center. If one or more bookmobiles are operated from the main library, a minimum of 300 square feet per bookmobile will be required in addition for sorting the bookmobile collections, book trucks, and work space for the bookmobile staff.

Library Service Centers. When justified by the requirements of a particular area or command, a library service center may be authorized. This is a specialized activity, and functions vary from one center to another. Basically, a library service center is a place where library materials are received, catalogued, processed, recorded, distributed, and redistributed to library outlets and also held in reserve for use as needed. Building size is to be determined by the maximum quantity of library materials to be on hand at any one time; i.e., the total number of books or other items held in reserve plus the number of items on hand to be processed for distribution.

Table 7 - 56 DOD Space Authorization for Main Libraries

Military Strength ¹	Area (Gross SF) ²
0 - 500	2,500 ³
1,501 - 2,500	6,250
4,001 - 6,000	10,500
8,001 - 12,000	18,000
12,001 - 16,000	20,000
16,001 - 20,000	24,000
20,001 - 26,000	30,000
32,001 - 40,000	44,000
50,001 - 60,000	64,000

¹ Military strength includes active duty plus 40% of their dependents.

² Environmental adjustment factors for libraries. For general planning purposes the maximum authorized space allowances must be adjusted to reflect the availability of on-installation housing. See DOD 4270.1-M.

³ Accommodate in other facilities.

Table 7 - 57 DOD Space Authorization for Library Service Centers

Library Materials to be Housed (Vols.)	Area (Gross SF)
1 - 40,000	6,000
40,001 - 60,000	10,000
60,001 - 80,000	13,000
80,001 - 100,000	16,000
100,001 - 120,000	19,000
120,001 - 140,000	22,000
140,001 - 160,000	24,000
160,001 - 180,000	26,000
180,001 - 200,000	28,000

a. General Use Spaces

(1) Entrance and Lobby

(a) *Description.* The lobby serves as a waiting area for patrons. Display cabinets, public pay telephones, and a drinking fountain are appropriate. The lobby is also suitable for an after-hours book drop.

(b) *Space Allocation.* See Table 7 - 58.

(c) *Relationships.* The main entrance should be convenient to the parking area, since most patrons will drive to the library. If there are two entrances, one should be from the parking lot and the other from the street and sidewalk. The lobby should usually be linked to the control area and adjacent to the multi-purpose room and toilets.

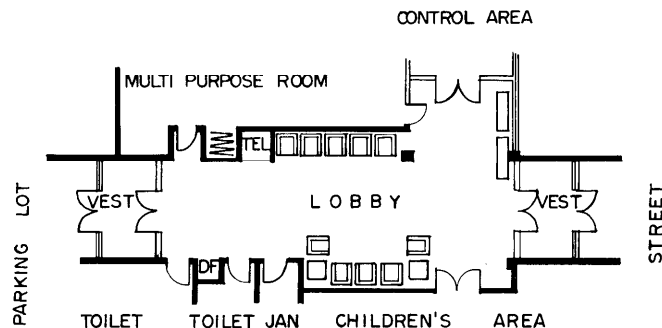
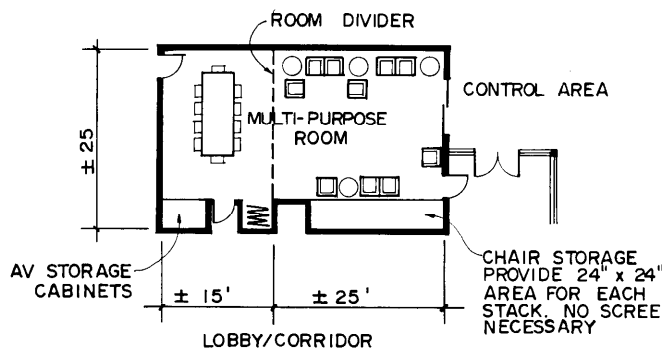


Table 7 - 58 Recommended Space Allocation for Main Libraries

Sub-Space	Size (Gross SF) based on Military Strength					
	1,501-2,500	4,001-6,000	8,001-12,000	12,001-16,000	16,001-20,000	20,001-26,000
General Use Spaces	420	565	2,080	2,150	2,215	2,365
Entrance and Lobby	185	185	340	410	475	575
Multi-Purpose Room	-	-	1,150	1,150	1,150	1,150
Public Toilets	235	380	590	590	590	640
Public Service Spaces	5,240	8,820	13,840	15,745	18,735	23,595
Public Card Catalog	60	115	235	295	755	390
Control Area	630	630	630	630	630	630
Reference Area	440	1,010	1,625	1,950	2,210	2,775
Periodicals Area	600	815	1,305	1,435	1,590	2,070
Children's Area	360	1,480	2,275	2,740	3,875	4,540
Stack Area	1,600	2,400	4,125	4,640	5,195	7,170
Reading and Study Area	1,420	2,290	3,520	3,890	4,370	5,810
Typing and Listening Booths	80	80	125	165	210	210
Staff Spaces	514	765	1,675	2,225	3,835	4,455
Administrative Librarian	-	-	-	170	170	170
Post Librarian	110	110	110	110	110	110
Extension Collection Area	-	-	-	-	415	415
Technical Services	275	510	750	1,060	1,610	2,090
Shipping and Receiving	-	-	230	230	270	270
Staff Lounge	-	-	360	430	500	570
Staff Washroom and Lockers	15	30	110	110	125	195
Janitor's Closet	115	115	115	115	115	115
Bookmobile Garage	-	-	-	-	520	520
Total Main Post or Branch Library	6,175	10,150	17,595	20,120	24,780	30,415



(2) Multi-Purpose Room

(a) *Description.* The multi-purpose room serves as a music-listening lounge and an extension of the general reading area. It also serves as a conference and meeting room for classes, seminars, movies, and special interest groups during and after regular library hours. Storage is required for folding or stacking chairs and for audio-visual equipment.

(b) *Space Allocation.* See Table 7 - 58.

(c) *Relationships.* The multi-purpose room should open onto the lobby. Access to the multi-purpose from the reading areas will expand the seating capacity of the library when the multi-purpose room is not being used for group activities. The staff kitchen should be nearby to facilitate food service. Storage for chairs and audio-visual equipment should be shared with the children's area, if possible.

(3) Public Toilets

(a) *Description.* Public toilets are required during regular library hours, and after-hours when the multi-purpose room may be open.

(b) *Space Allocation.* See Table 7 - 58.

(c) *Relationships.* The public toilets should be adjacent to the lobby and the multi-purpose room. The entrance to these facilities should be visible from the control desk.

b. Public Service Spaces

(1) Public Card Catalog

(a) *Description.* The public card catalog is maintained by technical services personnel.

(b) *Space Allocation.* See Table 7 - 58.

(c) *Relationships.* The public card catalog must be adjacent to, and visible from, the control area and reference area. It should be easily accessible from technical services, the general reading area, book stacks, periodical area, and post librarian's office. It should be centrally located and conveniently accessible from all other public service spaces.

(2) Control Area

(a) *Description.* All patrons using or borrowing library materials must pass through this area. Technicians at the control desk check materials in and out and answer questions. A work area behind the desk is used for maintenance of files. The work area must include storage space for reserve materials and for equipment that is to be checked out.

(b) *Space Allocation.* See Table 7 - 58.

(c) *Relationships.* Technicians at the Control desk should be able to see as much of the public service area as possible. The work area should be adjacent to technical services. The control area must be adjacent to the entrance and lobby, to prevent unauthorized removal of library materials.

Table 7 - 59 Space Allocation for Reference Area

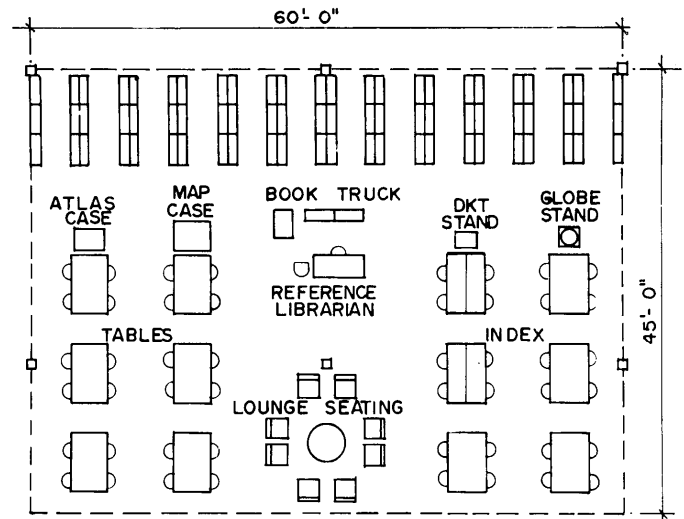
Sub-Space	Size (Gross SF) based on Military Strength					
	1,501-2,000	4,001-6,000	8,001-12,000	12,001-16,000	16,001-20,000	20,001-26,000
Shelving	140	335	550	640	735	780
Reference Librarian	-	-	-	-	170	170
Reference Cases	130	130	130	130	130	130
Tables	170	345	750	750	860	1,290
Lounge	-	85	85	140	140	170
Other	-	115	110	290	175	235
Total	440	1,010	1,625	1,950	2,210	2,775

(3) Reference Area

(a) *Description.* The reference area includes user seating and storage space for reference material. Reference materials are non-circulating and primarily used in the immediate area. The reference librarian, located in the reference area, answers research and reference questions and assists patrons in finding and using library materials throughout the public service area.

(b) *Space Allocation.* See Table 7 - 59.

(c) *Relationships.* The reference area should be near the control area so that control desk personnel can occasionally assist patrons. The card catalog area should be adjacent and visible from the reference librarian's desk. Periodicals, microfiche and the non-fiction section of the book stacks should be nearby.



(4) Periodicals Area

(a) *Description.* The periodicals area is used by browsers and by patrons who regularly read periodicals. It should be an attractive, comfortable, lounge-like space.

(b) *Space Allocation.* See Table 7 - 60.

(c) *Relationships.* The periodicals area should be near the reference area and easily accessible to the reference librarian. It should be visible and directly accessible from the lobby and other activity spaces, and may even function jointly as a reading lounge with the social/recreation program.

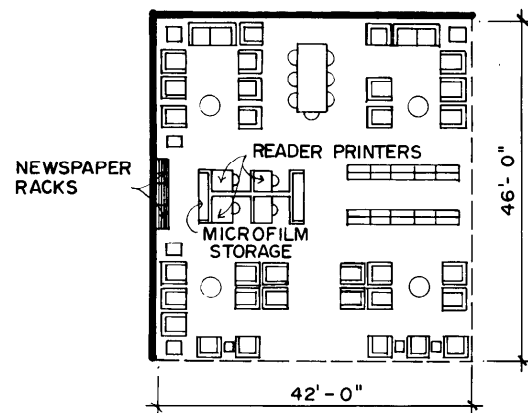
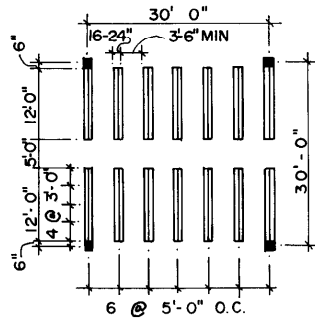
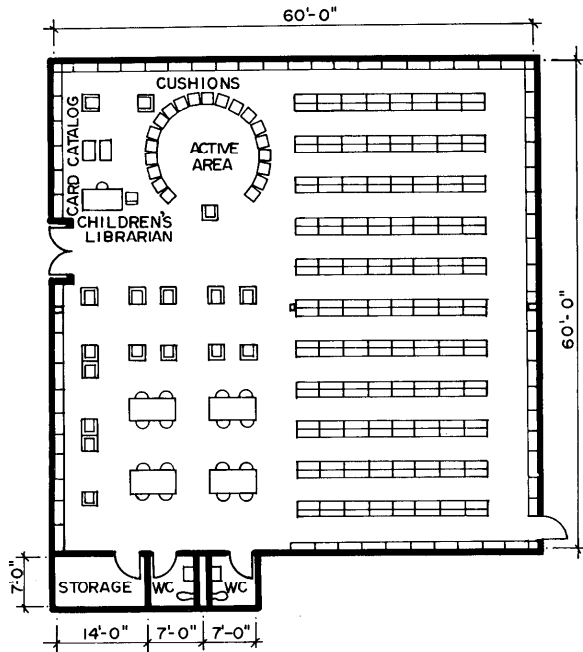


Table 7 - 60 Space Allocation for Periodicals Area

Sub-Space	Size (Gross SF) based on Military Strength					
	1,501-2,000	4,001-6,000	8,001-12,000	12,001-16,000	16,001-20,000	20,001-26,000
Seating Area	370	575	875	945	1,050	1,380
AV Carrel	-	-	45	90	140	185
Reference	110	120	145	160	160	160
Shelving	120	120	240	240	240	345
Total	600	815	1,305	1,435	1,590	2,070



(5) Children's Area

(a) *Description.* The children's collection contains separate stacks, tables, lounge seating, and a card catalog. Libraries with a large children's collection may contain a semi-independent children's area with its own control area, toilets, and children's librarian, who assists, supervises, and conducts special activities, such as story hour, slides, and movies.

(b) *Space Allocation.* See Table 7 - 61.

(c) *Relationships.* The children's area should be visible from the main control desk, if there is no assigned children's librarian. A storage area for AV equipment and chairs should be nearby. Acoustic separation from other library areas is recommended.

(6) Stack Area

(a) *Description.* The stack area houses fiction and non-fiction books, boxed periodicals, and bound newspapers, in double-faced shelving. Stack areas are open to patrons.

(b) *Space Allocation.* See Table 7 - 58.

(c) *Relationships.* The public card catalog and reference area should be adjacent. Technical services should be nearby. Stack areas should be close to reading and study areas. Generally the fiction stacks should be near lounge furniture and the non-fiction stacks near tables and carrels.

Table 7 - 61 Space Allocation for Children's Area

Sub-Space	Size (Gross SF) based on Military Strength					
	1,501-2,000	4,001-6,000	8,001-12,000	12,001-16,000	16,001 - 20,000	20,001-26,000
Shelving and Card Catalogue	170	1,170	1,860	2,325	2,725	3,110
Children's Librarian	-	-	-	-	145	145
Seating	185	275	370	630	810	1,080
Children's Toilet	-	-	-	-	115	115
Storage	6	35	45	60	80	90
Total	361	1,480	2,275	3,015	3,875	4,540

(7) Reading and Study Areas

(a) *Description.* Provide seating near fiction shelves and a reading area near the entrance with new acquisitions, topical subjects, and paperbacks displayed nearby. Small seating groups for two to eight readers should be located in the book stack and reference areas. Students may require study rooms for group work and spaces for individual study.

(b) *Space Allocation.* See Table 7 - 62.

(c) *Relationships.* Reading and study areas should be dispersed among the book stacks. These areas can help to define stacks devoted to specific aspects of the collection. Some study areas should be remote from major circulation paths.

(8) Typing and Listening Booths

(a) *Description.* Library patrons may require booths in order to use tape recorders, stereo equipment, or typewriters. Equipment is either permanently furnished in booths or borrowed from the control desk.

(b) *Space Allocation.* See Table 7 - 58.

(c) *Relationships.* Typing and listening booths should be near the control area to facilitate checkout and supervision of equipment and materials.

c. Staff Spaces**(1) Administrative Librarian's Office**

(a) *Description.* The administrative librarian is responsible for the operation of the entire post library system, which includes the main post library, branch libraries, the bookmobile, and all field library units. The administrative librarian's office must accommodate frequent meetings with library personnel and visitors.

(b) *Space Allocation.* See Table 7 - 58.

(c) *Relationships.* Since the administrative librarian frequently requires typing services, a clerk typist should be adjacent. Access to technical services is required to facilitate general supervision. If possible, visitors should have direct access to this office without passing through staff, reading, or stack areas.

(2) Post (Supervisory) Librarian

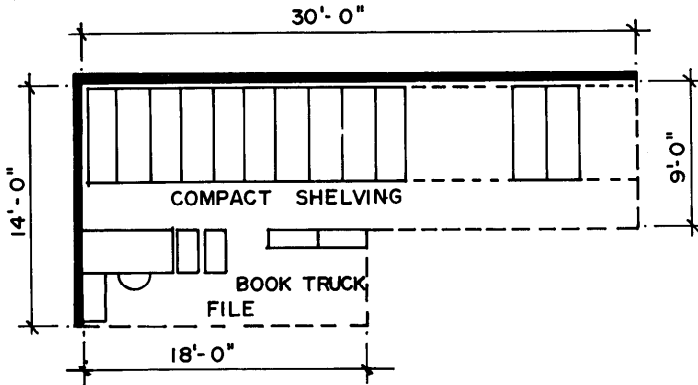
(a) *Description.* The post librarian (responsible for the operation of the main post library) directs the operations of the control desk, the reference and children's area, and frequently aids patrons in finding books and materials.

(b) *Space Allocation.* See Table 7 - 58.

(c) *Relationships.* This office should be adjacent and visually linked to the control desk.

Table 7 - 62 Space Allocation for Reading and Study Areas

Sub-Space	Size (Gross SF) based on Military Strength					
	1,501- 2,000	4,001- 6,000	8,001- 12,000	12,001- 16,000	16,001- 20,000	20,001- 26,000
Lounge Seating	620	760	1,445	1,520	1,725	2,410
Tables	430	630	1,035	1,265	1,435	2,010
Carrels	420	900	1,040	1,105	1,210	1,380
Total	1,470	2,290	3,520	3,890	4,370	5,800



(3) Extension Collection Area

(a) *Description.* The extension collection is used primarily for the bookmobile service. The librarian in charge of this collection also supervises the branch libraries. Books from the branches may occasionally be stored as part of the extension collection. Storage space may also be required for paperback kits stockpiled for issue.

(b) *Space Allocation.* See Table 7 - 58.

(c) *Relationships.* This area should be adjacent to the technical services area and near the bookmobile garage.

(4) Technical Services Area

(a) *Description.* Technical services serve the entire post library system, including the main post library, branch libraries, and the extension collection. Library materials are received, classified, catalogued, processed, recorded and distributed as needed. The work stations required include a card catalog (to house master shelflist, authority files, on-order cards, etc), index tables for bibliographic materials, a work corner for drafting tables, map case, sink, and trucks for books in process.

(b) *Space Allocation.* See Table 7 - 63.

(c) *Relationships.* The office of the administrative librarian should have direct access to the technical services area. Required adjacencies to this area include shipping and receiving, extension collection, bookmobile garage and control area. Proximity to the staff lounge and public card catalog is desirable.

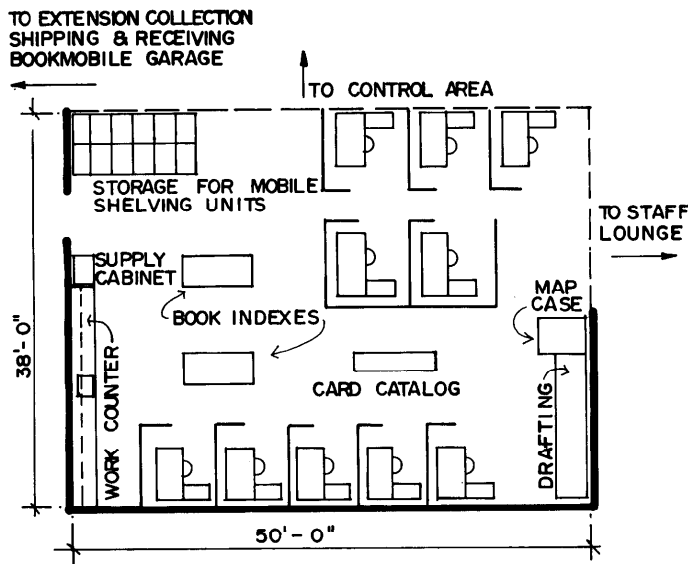


Table 7 - 63 Space Allocation for Technical Services Area

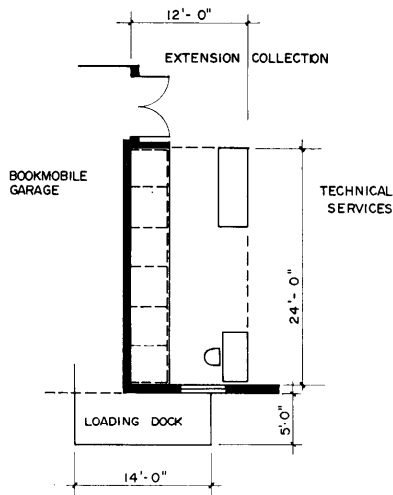
Sub-Space	Size (Gross SF) based on Military Strength					
	1,501-2,000	4,001 - 6,000	8,001-12,000	12,001-16,000	16,001-20,000	20,001-26,000
Work Station, Reference and Supplies	165	325	510	800	1,105	1,535
Drafting Tables	-	-	-	-	145	145
Work Counter with Sink	35	35	35	40	60	70
Shelving	55	125	125	140	165	210
Other	20	25	80	80	135	130
Total	275	510	750	1,060	1,610	2,090

(5) Shipping and Receiving

(a) *Description.* After library materials are delivered at the loading dock, they are taken to the shipping and receiving area where they are unpacked and sorted. Books processed in technical services are also sent through shipping and receiving when transferred to another branch or area of the library.

(b) *Space Allocation.* See Table 7 - 58.

(c) *Relationships.* Locate this area adjacent to the bookmobile garage, extension collection and technical services.



(6) Staff Lounge

(a) *Description.* The staff lounge is used for refreshments and relaxation and for informal staff meetings. It should include kitchen facilities.

(b) *Space Allocation.* See Table 7 - 58.

(c) *Relationships.* Locate this area adjacent to technical services so that the staff can enter directly. If possible, the lounge should be near the multi-purpose room in order to share kitchen facilities.

(7) Staff Washrooms and Lockers

(a) *Description.* A single washroom to accommodate individual use by all staff members is sufficient for most libraries. Provide lockers for staff without private offices.

(b) *Space Allocation.* See Table 7 - 58.

(c) *Relationships.* Locate rest rooms and lockers near technical services since it has the greatest concentration of staff. Entrances should be remote from public toilet entrances. For economy, consider proximity to other areas that require plumbing, such as the technical services sink, staff lounge, janitor's closet, or the public toilets.

(8) Janitor's Closet

(a) *Description.* The janitor's closet is used by maintenance personnel for storage of cleaning gear and as a work area.

(b) *Space Allocation.* See Table 7 - 58.

(c) *Relationships.* This area should be centrally located in order to minimize walking distances. For economy of plumbing, the janitor's closet should be located near the public and staff toilets.

(9) Bookmobile Garage

(a) *Description.* The bookmobile garage serves as vehicle storage and includes a loading dock. It can also serve as access between the shipping and receiving area and the outside loading dock.

(b) *Space Allocation.* See Table 7 - 58.

(c) *Relationships.* The bookmobile garage should be adjacent to the shipping and receiving area and technical services area.

7 - 1 8

Military Recreation Supply/Support Facility

Space allowances for special services office and supply facilities are shown in Table 7 - 64. This central supply and administrative operation should be conveniently located for vehicular delivery from off-post, and to other functions around the post. Individual personnel accessibility is not a primary factor in its siting and design.

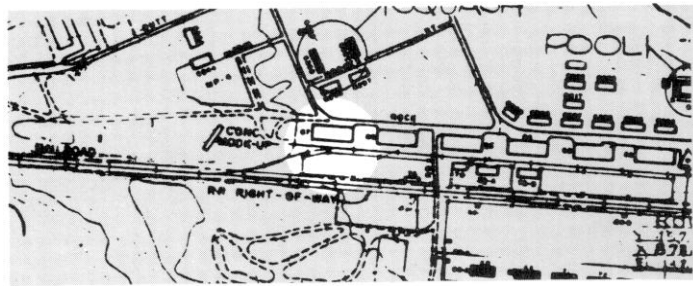


Table 7 - 64 DOD Space Authorization for Military Recreation Supply/Support Facility

Military Population ¹	Area (Gross SF)	
	Supply Facilities	Office ²
1 - 1,000	3,500	
1,001 - 2,000	5,000	
2,001 - 4,000	7,500	
4,001 - 8,000	10,000	
8,001 - 12,000	12,500	
12,001 - 20,000	16,000	
20,001 - 50,000	20,500	
50,001 - 100,000	30,000	

¹ Military population consists of active military strength plus 25% of the dependent population.

² In addition to gross square footage allowed for supply facilities, not less than 80, nor more than 90 square feet of net space per office employee may be provided.

7 - 1 9

Multipurpose Recreation Buildings

A multi-purpose recreation building provides space for religious, welfare, and recreational activities at small installations (with military strengths of less than 500) where separate religious, welfare and recreational buildings are not authorized. The building may include space for religious activities, recreation, enlisted personnel club, NCO open mess, officers' open mess, entertainment activities, youth center, child care center, and theater. The size of the building will be determined from Table 7 - 65. Space allotment for the various activities within the building may be determined locally.

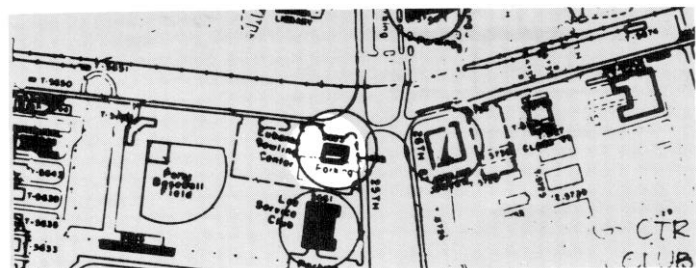
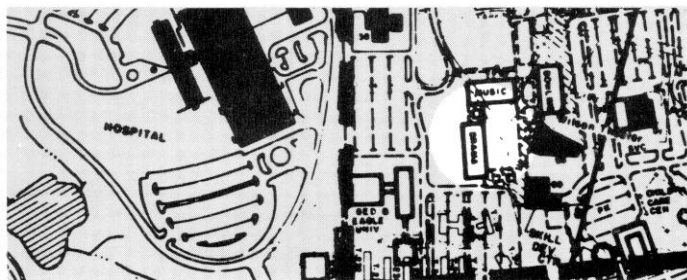


Table 7 - 65 DOD Space Authorization for Multipurpose Recreation Buildings

Military Population	Area (Gross SF)
50 - 100	7,000
101 - 200	8,000
201 - 300	9,000
301 - 400	10,500
401 - 500	12,500

¹ Military Population includes active duty military plus 50% of the dependent personnel.



7 - 20

Music and Drama Centers

DG 1110-3-120

Table 7 - 66 DOD Space Authorization for Drama Centers and Music Centers

Military Strength ¹	Area (Gross SF)	
	Drama Centers	Music Centers
up to 500	Combine with Recreation Center	
500 - 5,000	Provided by unit entertainment centers.	
5,001 - 15,000	14,000	14,000
over 15,000	20,000	20,000

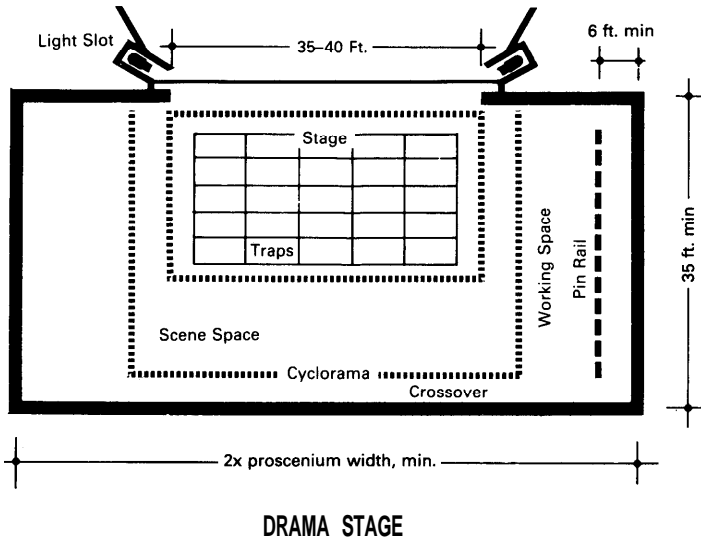
¹Military strength includes active duty military plus 25% of their dependents.

There are four categories which comprise the Army Performing Arts program:

- Music, including all forms of locally produced vocal and instrumental music, music listening/appreciation, and music-related technical activities.
- Theater, including all forms of locally produced drama and musical performances, theater auditing/appreciation, and theater technical activities.
- Unit Level Entertainment, which consists of an organized set of music and theater activities programmed to fit the personnel in a specific unit. The activities generally emphasize music, but may include a comprehensive mixture of music, theater and dance, as appropriate.
- Commercial Entertainment & Incoming Touring Show, which presents professional or amateur performances, produced by another military installation, commercial operation, or civilian community or school.

The *DOD Construction Criteria Manual* specifies that only one drama center and one music center shall be constructed at each installation, and only when there is no existing facility that can be suitably adapted. When a particular program requires both a new drama and music center; the DOD Criteria specifies one consolidated center. Space authorization figures are found in Table 7-66.

The main functional areas of music and drama centers consist of the room (stage and audience seating), backstage (performer/product production facilities), and the front end (lobby and audience facilities). Space allocation for these areas, and their sub-spaces, are summarized in Table 7 - 67.



a. The Room

(1) *Description.* The heart of any performance facility is the Room, the place of performance. The Room includes the seating and stage or platform. The important choices related to Room design include:

- use of the Room for music, drama or both (shape)
- relationship of audience and performers in frontal, thrust or surround form (arrangement) and,
- estimated seating capacity.

(2) *Space Allocation.* The allocation for the seating, stage, platforms, orchestra pit and related areas, varies according to the type of performance. For the gross square footage of the room, with stage or platform, see Table 7 - 68.

(3) *Relationships.* All activities and spaces within the center relate, either directly or indirectly to the Room. Public spaces are directly related to the Room in terms of audience capacity and access. Backstage facilities are directly related in terms of scene handling, stage form, and stage access requirements, and indirectly by rehearsals and set assembly which take place in the Room.

Table 7 - 67 Space Allocation for Music and Drama Centers

Size (Gross SF) based on Military Population

	5,001-15,000				over 15,000			
	Basic Drama	Small Drama	Basic Music	Small Music	Dual Use Alternative # ¹²	Large Drama	Large Music	Dual Use Alternative # ²²
The Room	7,200	7,200	9,000	9,000	2 rooms = 11,850	11,350	16,500	2 rooms = 22,500
Backstage	7,430	11,070	6,495	10,090	11,270	17,275	14,975	31,160
Performer's Area	1,895	3,195	2,135	2,915	3,220	4,585	4,475	3,490
Technical Facilities	180	240	120	240	900	420	300	900
Preparatory ¹ Areas	5,355	7,635	1,985	6,935	7,150	12,270	10,200	26,770
The Front End	4,200	4,200	8,490	8,490	8,490	7,140	14,920	14,920
Public Spaces	3,550	3,550	7,390	7,390	7,390	6,040	12,990	12,990
Staff Areas	650	650	1,100	1,100	1,100	1,100	1,930	1,930
Total	18,830	22,470	23,985	27,580	31,610	35,765	46,395	68,580

¹ These figures are derived from an itemized table (Table 7 - 69) in this volume and sometimes contradict the summarized totals listed in the Design Guide itself.

² Alternative #1 consists of a 200-250 Chamber Recital Hall and a 500 Frontal/Thrust Theater. Alternative #2 consists of a 1200 seat Opera/Concert Hall and a 450 Experimental Theater.

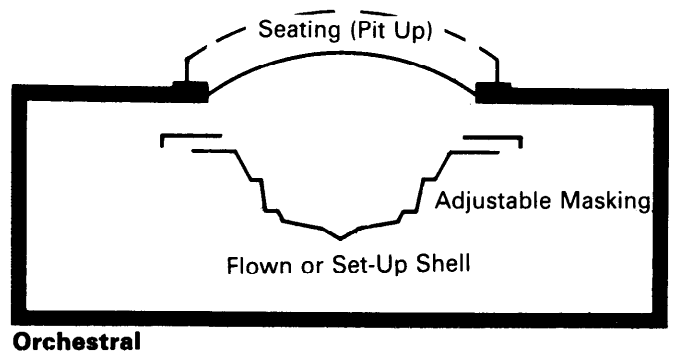
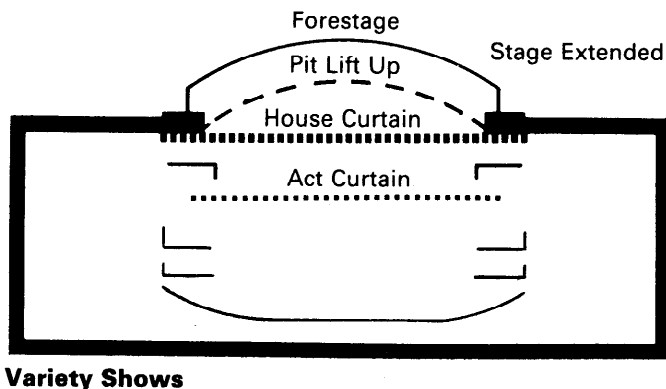
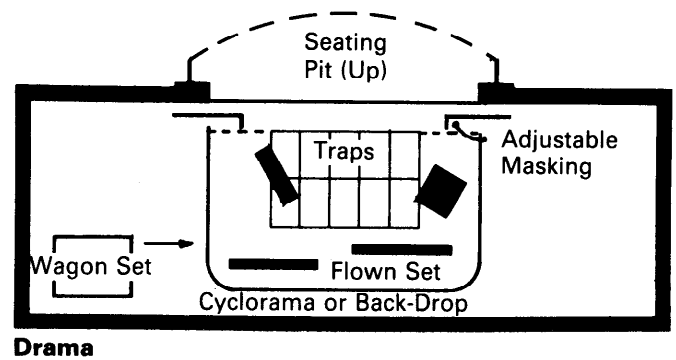
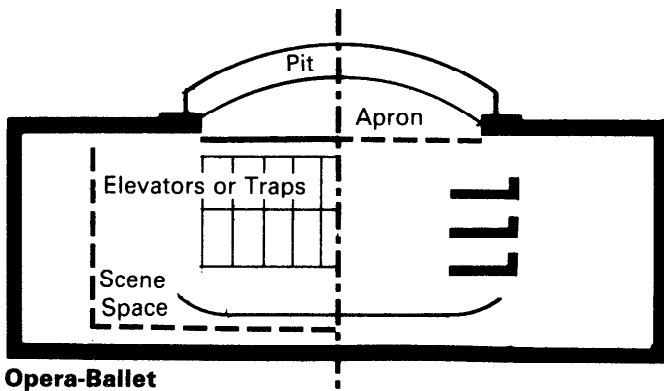
Table 7 - 68 Space Allocation for Room with Stage or Platform

Size (Gross SF) based on Military Population

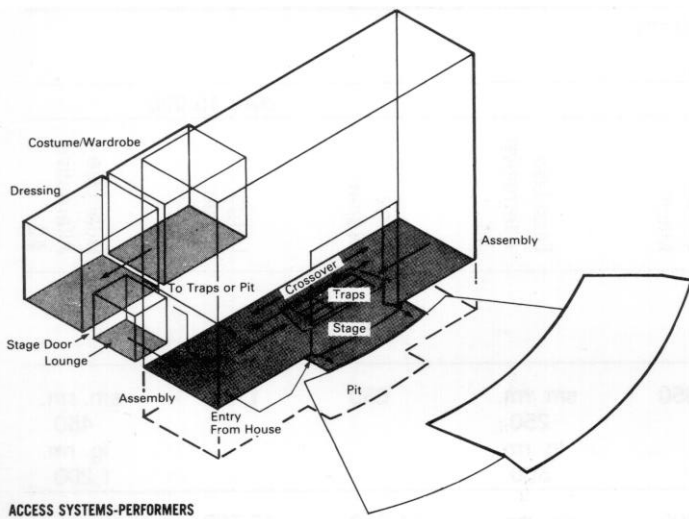
5,001-15,000

over 15,000

	Basic Drama	Small Drama	Basic Music	Small Music	Dual Use Alternative #1	Large Drama	Large Music	Dual Use Alternative #2
Room(s) with Stage House or Platform								
No. seats	300	300	650	650	sm. rm. 250 lg. rm. 500	650	1,400	sm. rm. 450 lg. rm. 1,200
Size	7,200	7,200	9,000	9,000	sm. rm. 3,850 lg. rm. 8,000	11,350	16,500	sm. rm. 6,500 lg. rm. 16,000



THE MULTI-USE STAGE



b. Backstage

(1) Performers' Area

(a) *Description.* This area accommodates cast activity during scheduled performances (including dress rehearsals). Dressing, toilets, artists' lounge, green room, stage door, and pre-entry assembly areas are commonly provided for all performing arts disciplines. Showers are especially important for drama and dance. Drama facilities must also include makeup areas, often separate from dressing rooms with suitable mirrors, lighting, countertop and washbasins. A costume wardrobe is recommended. Musicians need areas for warm-up and tuning prior to performance. If none can be provided, a more generous sound proofed dressing room is essential.

(b) *Space Allocation.* See Table 7 - 69.

(c) *Relationships.* Spaces in the performers' area are closely related to the stage. The stage door provides controlled entry to backstage, away from the public entry, often with a security post off stage. The Green Room (sometimes used to meet guests and the press) should be accessible from the house or public lobby. The costume wardrobe should be directly accessible from dressing.

Table 7 - 69 Space Allocation for Performers' Area

	Size (Gross SF) based on Military Population				over 15,000			
	Basic Drama	Small Drama	Basic Music	Small Music	Dual Use Alternative #1	Large Drama	Large Music	Dual Use Alternative #2
Dressing Group	720	1,385	720	1,200	1,080	2,305	2,160	See Total
Private/ Conductor	-	-	215	215	480	-	215	
Wardrobe	95	190	-	-	100	215	-	
Makeup	240	360	-	-	240	360	-	
Toilets and Showers	480	480	480	480	480	660	680	
Lounge/"Green Room"	360	600	480	600	600	960	1,440	
Kitchen	-	60	-	60	-	60	60	
Warm Up	-	-	240	240	240	-	-	
Assembly								
"Onstage"	(192) ¹	(192)	-	-	-	(192)	(160)	
"Offstage"	-	-	(600)	(600)	-	-	-	
"Stage Door" Waiting	-	120	-	120	-	120	120	
Total	1,895	3,195	2,135	2,915	3,220	4,680	4,475	3,490

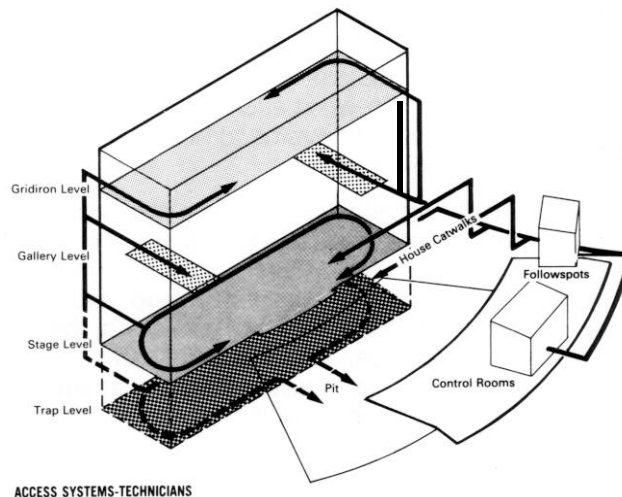
¹Figures in parentheses are accounted for in Room tabulations.

(2) Technical Facilities

(a) *Description.* These areas accommodate accessories for scheduled performances. Basic technical facilities for both music and drama include lighting and sound control, manned equipment positions and accessways, and the stage manager's command post. A substantial stage crew, especially for drama, may require a waiting lounge and locker area of its own.

(b) *Space Allocation.* See Table 7 - 70.

(c) *Relationships.* The relationship of major technical areas to the house and stage include visibility of the stage from the control center and spot booth, and electrical interconnection of all direct technical support spaces. Accessibility to backstage areas should also be reasonably convenient.



(3) Preparatory Areas

(a) *Description.* These areas are for production and maintenance activities prior to performances, which in most cases continue year-round and day-to-day.

Every performing arts facility requires a loading door and receiving area with associated trunk storage for road boxes and general storage for bulk material. A maintenance shop with tool storage should also be provided. Drama facilities require a scene shop rather than (or in addition to) a maintenance shop. A separate shop is

Table 7 - 70 Space Allocation for Technical Facilities

	Size (Gross SF) based on Military Strength				over 15,000			
	Basic Drama	Small Drama	Basic Music	Small Music	Dual Use Alternative #1	Large Drama	Large Music	Dual Use Alternative #2
Lighting Control	(120) ¹	-	(90)	(90)	240	(175)	(90)	See Total
Sound Control	(70)	(310)	(90)	(90)	240	(100)	(90)	
Projection Control	-	-	-	(120)	-	-	(250)	
Record/Playback	-	(70)	-	-	-	(70)	-	
Video Broadcast	-	-	-	-	-	(120)	(90)	
Technical Onstage	(145)	(145)	(95)	(95)	-	(145)	(95)	
Follow Spots	(95)	(145)	(95)	(145)	180	(145)	(145)	
Stage Crew Lounge	180	240	120	240	240	420	300	
Total	180	240	120	240	900	420	300	900

¹Figures in parentheses are accounted for in Room tabulations.

needed for costume fabrication and maintenance. Space for the storage and repair of lighting instruments and electric gear should also be provided in a separate, secure room furnished with workbench, cable reels, shelving and wall mounted or overhead hooks and clamping bars for fixture storage.

Music facilities usually require fewer scene production facilities and more practice facilities than drama centers. These consist of several small practice rooms for individuals, at least one for piano and voice coaching, and a sectional warm-up room for rehearsing portions of the resident orchestra or chorus. A Music and Drama Center designed primarily for music will have instrumental storage and a repair shop in addition to general storage and maintenance, plus chair, stands, riser and lighting storage, and probably a score library.

(b) *Space Allocation.* See Table 7 - 71.

(c) *Relationships.* The scene shop should adjoin the stage view quarters and office, and be directly accessible from the stage house. Practice rooms should be accessible from dressing areas, and stage, during performance hours. The possible shared use of arts and crafts workshop space for scenery shop purposes should be considered.

c. The Front End

(1) Public Spaces

(a) *Description.* The organization of public spaces is established by entry, sequence and control. Two distinct zones are created by means of ticket-taking, a public zone and a patron or audience zone:

- Activities of the public zone are arrival, vehicular drop-off, waiting for friends or for the doors to open, lining up for tickets or admission, purchase of advance tickets, obtaining season schedule or coming events information.
- The patron zone includes all spaces communicating with the House after surrendering one's ticket. It is important that all essential services, such as restrooms and checkrooms, be accessible without recrossing the control point. The patron zone includes a foyer where the audience may gather before the performance or during intermissions.

(b) *Space Allocation.* See Table 7 - 72.

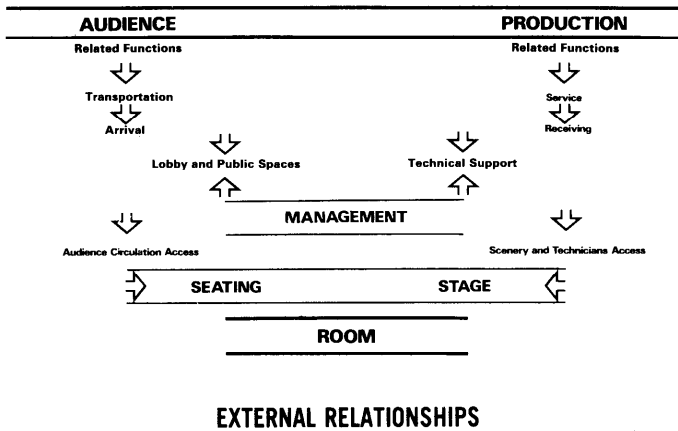
(c) *Relationships.* The entrance and lobby areas should provide direct and visible access from the outside or from shared circulation spaces of a Community Activity Center. The visibility will help expose and advertise the functions of the music or drama program. The patron zone should conveniently interconnect all audience support spaces with all seating areas. Visibility from public to patron zones may be provided while maintaining access control. Access to the outdoors from the patron zone, for use during intermissions, may be desirable.

Table 7 – 72 Space Allocation for Public Spaces

Sub-Space	Size (Gross SF) based on Military Population							
	5,001-1,500				Over 1,500			
	Basic Drama	Small Drama	Basic Music	Small Music	Dual Use Alternative #1	Large Drama	Large Music	Dual Use Alternative #2
Lobby	240	240	420	420	420	420	720	720
Main Foyer	2,160	2,160	3,600	3,600	3,600	3,120	6,000	6,000
Sub Foyers	-	-	1,200	1,200	1,200	720	2,160	2,160
Food/Beverage	35	35	70	70	70	70	150	150
Storage	85	85	90	90	90	90	180	180
Toilets and J.C.	310	310	420	420	420	420	780	780
Coat Room/Circulation	720	720	1,595	1,595	1,595	1,200	3,000	3,000
Total	3,550	3,550	7,395	7,395	7,395	6,040	12,990	12,990

Table 7 - 71 Space Allocation for Preparatory Areas

	Size (Gross SF) based on Military Strength							
	5,001-15,000				over 15,000			
	Basic Drama	Small Drama	Basic Music	Small Music	Dual Use Alternative #1	Large Drama	Large Music	Dual Use Alternative #2
Loading/ Receiving	360	480	360	840	See Total	480	700	See Total
Storage								
General	1,200	1,800	240	240		1,800	600	
Stage & Chairs	-	-	90	90		-	90	
Trunks	-	-	-	180		-	540	
Risers	-	-	-	900		-	900	
Pianos	-	-	-	600		-	600	
Lighting/ Instruments	180	300	480	480		300	840	
Scores/Scripts	-	-	95	95		120	270	
Costumes	600	1,200	-	-		1,200	-	
Property	-	240	-	-		240	-	
Shops/Assembly								
Tools/Shop	1,800	2,400	-	600		1,400	600	
Maintenance	-	-	360	360		-	360	
Scene Paint Shop	-	-	-	-		2,940	-	
Costume Workroom	360	360	-	-		360	-	
Electrical	145	145	240	240		260	240	
Technical Crew								
Director's Office	-	-	120	240		-	240	
Design Area	530	530	-	-		530	-	
Road Manager	-	-	-	-		-	-	
Toilets	-	-	-	-		-	-	
Performance Rooms								
Rehearsal	-	-	-	960		2,160	960	
Practice	-	-	-	930		-	1,080	
Warm-up	-	-	-	-		-	2,000	
Laundry & Dye Works	180	180	-	-		260	-	
Recording/ Control	-	-	-	180		-	180	
Editing	-	-	-	-		220	-	
Total	5,355	7,635	1,985	6,935	7,150	12,270	10,200	26,772



(2) Staff Areas

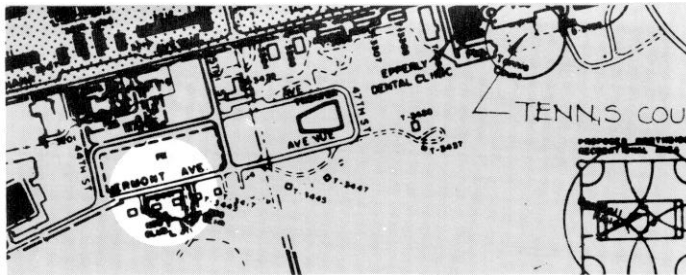
(a) *Description.* Staff space allocations depend more on staff size than house capacities. Commercial and civic performance facilities often devote 15% of the front end area to offices alone. Military facilities tend to have a much smaller permanent staff that seems to function “family style”. Two directors’ offices are suggested for prolonged use. The house manager requires an office adjoining ticket sales. General office space for one full-time clerical person, plus an area for storage and duplicating, is needed.

Ushers may share the first aid area. However, a separate lounge is recommended for large groups. At least one custodian’s mop closet is required at each floor, plus storage for foyer and lobby fittings (chairs, etc.). A space must be provided for snack and beverage service equipment, with more area if secondary banquet uses are contemplated.

(b) *Space Allocation.* See Table 7 - 73.

Table 7 – 73 Space Allocation for Staff Areas

Sub-Space	Size (Gross SF) based on Military Population							
	5,001-1,500				Over 15,000			
	Basic Drama	Small Drama	Basic Music	Small Music	Dual Use Alternative #1	Large Drama	Large Music	Dual Use Alternative #2
Director’s Office	180	180	360	360	360	360	360	360
Publicity Office	-	-	-	-	-	-	140	140
House Manager	-	-	120	120	120	120	220	220
Box Office	70	70	70	70	70	70	160	160
General Office	340	340	220	220	220	220	220	220
Workroom	-	-	-	-	-	-	180	180
Storage/Duplication	60	60	95	95	95	95	95	95
Library	-	-	95	95	95	95	150	150
Ushers	-	-	140	140	140	140	180	180
First-Aid Room	-	-	-	-	-	-	230	230
Total	650	650	1,100	1,100	1,100	1,100	1,935	1,935



7-21

Open Messes (Clubs)

Table 7 - 74 DOD Space Authorization for Enlisted Personnel Open Messes

El through E3 Population ¹	Area (Gross SF)
1 - 500	30 sq. ft./person ²
1,001 - 3,000	19,000
5,001 - 7,000	40,000
10,001 - 15,000	60,000
20,001 - 25,000	80,000
30,001 - 40,000	110,000
50,001 - 60,000	150,000

¹Military population includes active duty enlisted, grades E1 through E3, and 50% of their spouses.

²Provide in other facilities.

Table 7 - 75 DOD Space Authorization for Non-Commissioned Officers' Open Messes

Military Population ¹	Area (Gross SF)
1- 50	44 sq. ft. per member ²
251 - 400	8,000
1,251 - 2,000	22,000
4,001 - 5,000	42,000
8,001 - 10,000	68,000
14,001 - 16,000	98,800
20,001 - 22,000	120,800
28,001 - 30,000	149,400

¹Military population is defined as active duty NCO's in the top six grades plus 50% of their spouses and 50% of the retired population supported by the installation.

²Provide in other facilities.

Table 7 - 76 DOD Space Authorization for Officers' Open Messes

Military Population ¹	Area (Gross SF)
1 - 50	44 sq. ft. per person ²
251 - 400	12,000
1,001 - 2,000	27,800
3,001 - 4,000	42,500
5,001 - 6,000	53,900
7,001 - 8,000	64,000
9,001 - 10,000	72,700

¹Military population includes active duty officers, plus 50% of their spouses and 50% of the retired officers supported by the installation.

²Provide in other facilities.

DOD construction criteria specify open mess space requirements for enlisted personnel, non-commissioned officers', and officers. An enlisted personnel's open mess operating a branch or annex to accommodate non-commissioned officers may use the combined space authorizations for non-commissioned officers and enlisted men. The same applies to an NCO open mess operating a branch to accommodate enlisted personnel.

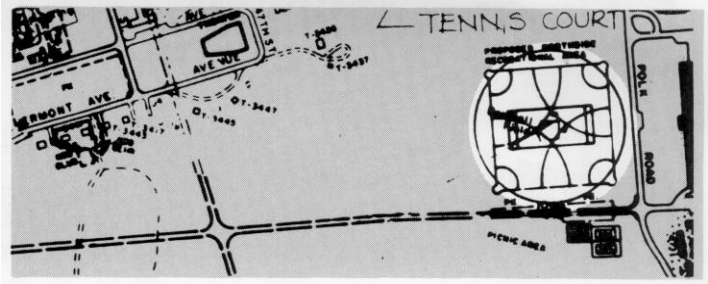
Tables 7 - 74, 7 - 75 and 7 - 76 summarize the space authorizations for each type.

While the club system is operated under its own auspices, it's function relates closely to the purposes of Morale Support Activities. In certain posts, particularly small ones, these functions may be able to share some facilities or be consolidated in the same structure for better coordination of activities. Even where separate facilities are authorized and appropriate, their planning should take into account the potential programmatic and special-facility-use relationships between the functions. The clubs may also be appropriately consolidated or co-located with certain retail and service activities, such as PX service outlets, liquor stores, and snack bars.

7 - 22

Outdoor Playing Courts and Fields

TM 5-803-10



These facilities provide for the outdoor sports and games most commonly played for competition and for recreation by military and civilian personnel. Numbers of facilities authorized are summarized in Table 7 - 77. They should be designed to accept national standards for the sport, and level of play or competition involved, as indicated in Table 7 - 78.

The location of these outdoor playing courts and fields adjacent to Community Activity Centers, or Physical Fitness Centers, is recommended for convenience and use of support spaces (lockers, equipment storage, and showers) as well as complementary activities (snack bar, lounge, and youth activity center). While the large space requirements of these outdoor facilities may preclude complete integration in CAC site planning, the adjacency of at least some courts and fields will be of mutual attraction and exposure benefit.

Table 7 - 78 Space Allocation for Outdoor Playing Courts and Fields

	Size (Gross SF) ¹
Tennis Court	1,300
Track	187,310
Regulation Baseball Field	130,680-167,710
Junior Baseball Field	52,270
Regulation Softball Field	62,500-90,000
Volleyball Court	4,000
Handball Court (four-wall)	800
Badminton	1,620

¹Size of one facility of each type is given. For number of facilities to be provided per military population, see Table 7 - 77.

Table 7 - 77 DOD Authorization for Outdoor Playing Courts and Fields

Facility	Number per Military Population ^{1,2}
tennis court	1 for up to 500 population, 1 add'l for each add'l 500, up to 10 courts, 1 add'l for each 1000 above 5000.
440-yard running track	1 for installations of 1000 and over.
regulation baseball field	1 for installations of 1000 and over.
regulation softball field	2 for up to 750, 2 for each add'l increment of 1000.
volleyball courts	3 for up to 750, 3 for each add'l increment of 1000.
basketball court	1 each for up to 750, 1 each for each add'l increment of 1000.
handball court	
badminton court	

¹Military population is defined as active duty plus 35 percent of their dependents and 10 percent of retired military personnel supported.

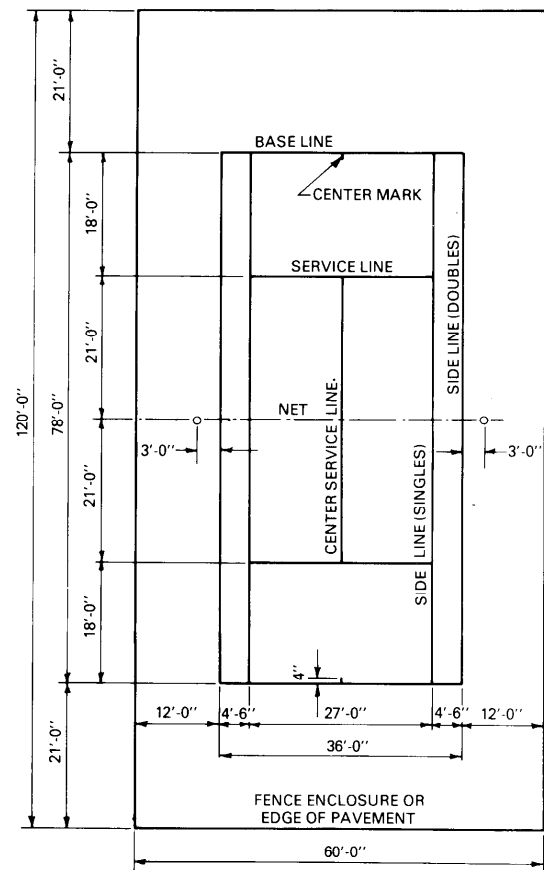
²For a dependent population, ages 6 - 19, of up to 500, and for each increment of 500 thereafter up to 2,500, one youth baseball field may be provided. An additional youth baseball field may be provided for each additional increment of 750 dependent population ages 6 - 19.

a. Tennis Court

- (1) *Description.* The playing court is 36'x78', plus at least 12' clearance on both sides or between courts in battery, with 21' clearance on each end.
- (2) *Space Allocation.* See Table 7 - 77 and 7 - 78.
- (3) *Relationships.* Preferred orientation is for the long axis to be north-south. Fencing (10' high chain link fence) is recommended on all sides of the court.

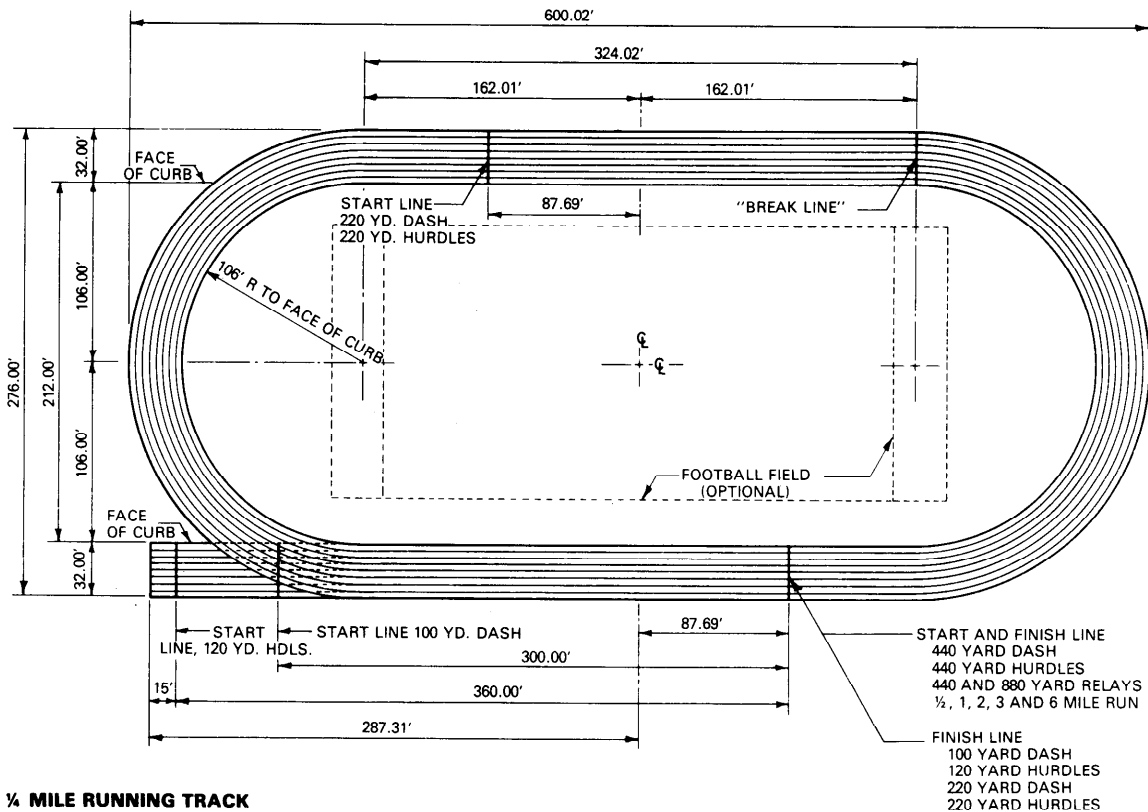
b. Track

- (1) *Description.* Inside radius to face of curb is 106' - 0". Track width is 32' - 0" for eight 4 - foot-wide lanes. Overall width is 276' - 0". Overall length is 600.02'.
- (2) *Space Allocation.* See Table 7 - 77 and 7 - 78.
- (3) *Relationships.* The track should be oriented so that the long axis falls in a sector from north-south to north-west-southeast with the finish line at the northerly end. Drainage must be provided for the track surface and optional football field, but will be dependent upon site grading.

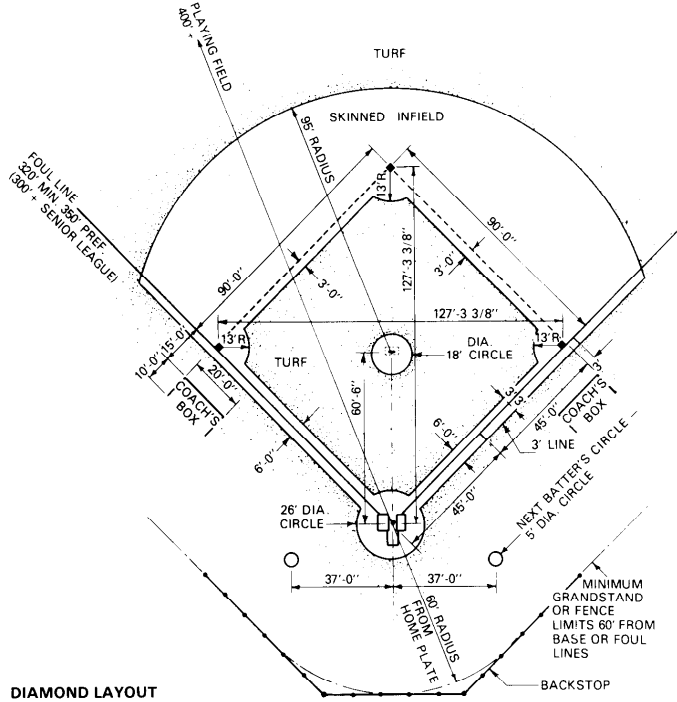


COURT LAYOUT

TENNIS



1/4 MILE RUNNING TRACK



DIAMOND LAYOUT

BASEBALL

c. Regulation Baseball Field

(1) *Description.* Baselines are 90' - 0". Pitching distance is 60' - 6". Distance down foul lines is 320' minimum, 350' preferred. Outfield distance to center field is 400'+. For senior league baseball, recommended distance from home plate to outfield fence at all points is 300'+.

(2) *Space Allocation.* See Table 7 - 77 and 7 - 78.

(3) *Relationships.* Optimum orientation is to locate home plate so that the pitcher is throwing across the sun, and the batter is not facing it. The line from home plate through the pitcher's mound and second base should run east-northeast.

d. Little League Baseball Field

(1) *Description.* Baselines are 60' - 0". Pitching distance is 46' - 0". Pitcher's plate is 6" above the level of home plate. Distance down foul line is 200'. Outfield distance to pocket in center field is 200' to 250'.

(2) *Space Allocation.* See Table 7 - 77 and 7 - 78.

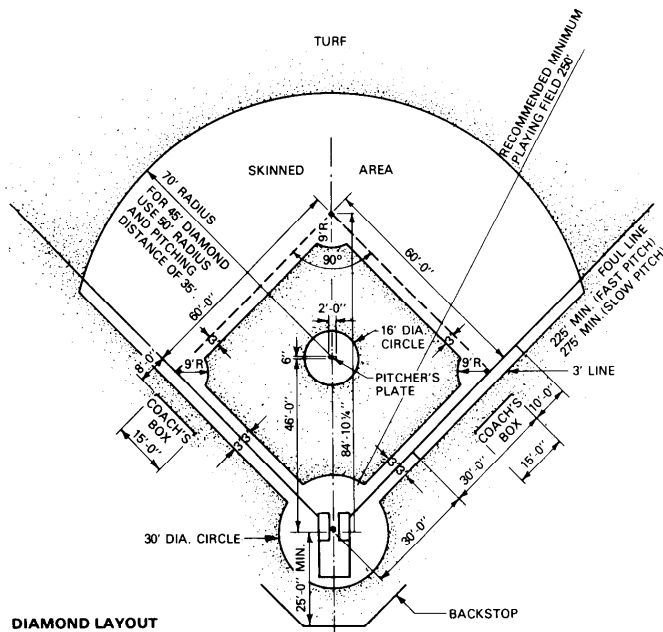
(3) *Relationships.* Optimum orientation is to locate home plate so that the pitcher is throwing across the sun, and the batter is not facing it. The line from home plate through the pitcher's mound and second base should run east-northeast.

e. Regulation Softball Field

(1) *Description.* Baselines are 60' - 0" for men and women, 45' - 0" for juniors. Pitching distances are 46' - 0" for men, 40' - 0" for women, 35' - 0" for juniors. Fast pitch playing field is 225' radius from home plate between foul lines for men and women. Slow pitch is 275' radius for men, 250' radius for women.

(2) *Space Allocation.* See Table 7 - 77 and 7 - 78.

(3) *Relationships.* Optimum orientation is to locate home plate so that the pitcher is throwing across the sun, and the batter is not facing it.



DIAMOND LAYOUT

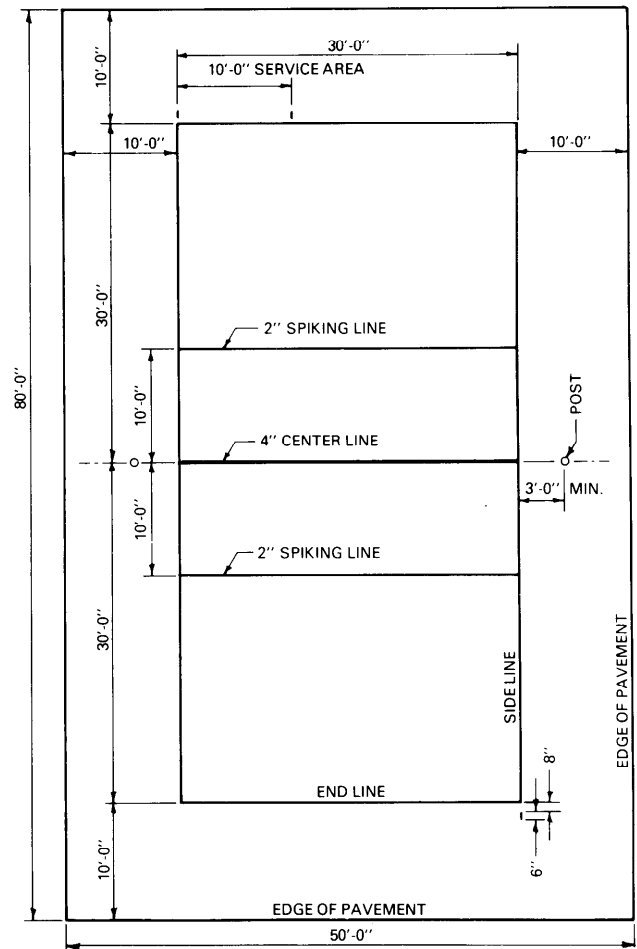
SOFTBALL 12"

f. Volleyball Court

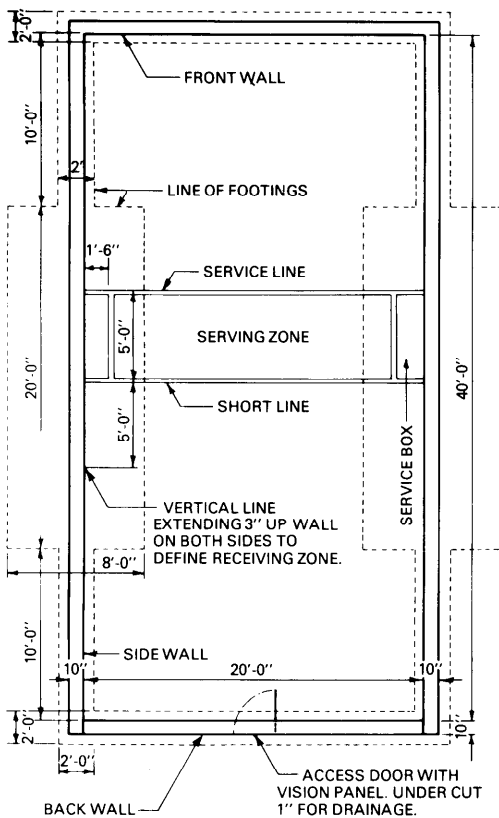
- (1) *Description.* Playing court is 30' x 60' plus 6' minimum, 10' preferred, unobstructed space on all sides.
- (2) *Space Allocation.* See Table 7 - 77 and 7 - 78.
- (3) *Relationships.* Preferred orientation is for the long axis to be north-south.

g. Handball Court, Three and Four Wall

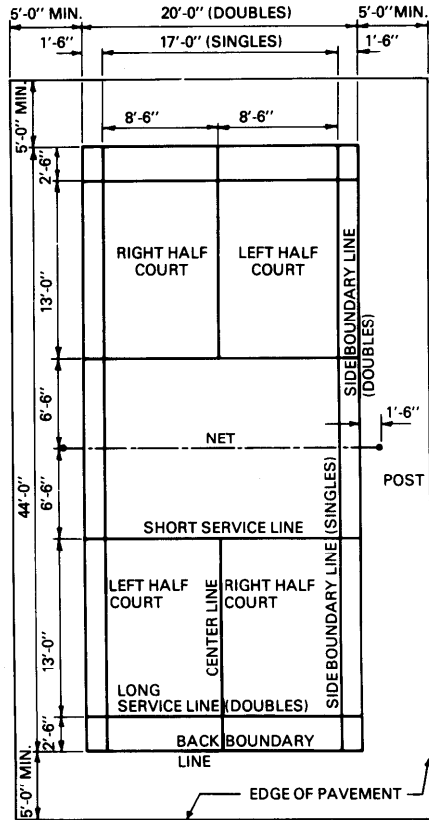
- (1) *Description.* Playing court is 20' - 0" wide by 40' - 0" long plus a minimum 10' - 0" to the rear of the three wall court. Overhead clearance required is 20' - 0" minimum.
- (2) *Space Allocation.* See Table 7 - 77 and 7 - 78.
- (3) *Relationships.* Preferred orientation is for the long axis to be north-south with the front wall at the north end. Special provisions for drainage must be made and access must be provided through the back wall for four wall courts.



COURT LAYOUT VOLLEYBALL



COURT LAYOUT - 4-WALL

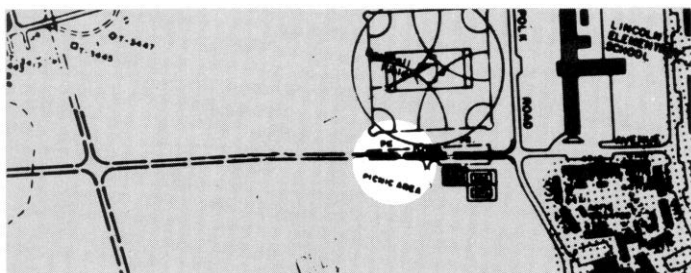


COURT LAYOUT

BADMINTON

h. Badminton Court

- (1) *Description.* Singles court is 17' x 44', doubles court is 20' x 44', with a 5' - 0" minimum unobstructed area on all sides. Surface is to be concrete or bituminous material with optional protective colorcoating for permanent installation, or grass for general recreation.
- (2) *Space Allocation.* See Table 7 - 77 and 7 - 78.
- (3) *Relationships.* Preferred orientation is for the long axis to be north-south. Drainage is to be end to end, side to side, or corner to corner, at a minimum slope of 1" in 10'.



7 - 23

Outdoor Recreation Facilities

TM 5-803-12

Table 7 - 79 Recommended Space Allocation for Outdoor Recreation Facilities

Facility	Minimum Size (Gross SF) per Facility
Family Travel Camp	799
Beach Bathhouse	2,081-2,469
Gun Skeet and Trap Facility	2,706-3,262
Marina Support Building	2,310-2,518
Cabin	874
Cottage	890
Dormitory	2,694
Outdoor Recreation Pavillion	3,139-3,335
Riding Stables:	
1. Operations Building	3,518
2. Rental Boarding Stables	11,718

The outdoor recreation program serves installation personnel, their families, retirees, civilian employees and, if possible, the general public. The program varies according to the location and requirements of the installation. Where applicable, it includes:

- a family travel camp used by installation personnel as well as visiting army personnel and dependents,
- a beach bathhouse including a lifeguard/first aid room, snackbar and restrooms,
- a gun, skeet and trap ranges,
- a marina support building including a lounge, storage and sales area,
- outdoor recreation lodging consisting of cabins, cottages and dormitories,
- an outdoor recreation pavillion used for picnics, group outings and parties, and,
- a riding stable for recreation service horse rental and privately boarded horses.

For authorized numbers and spaces of these facilities, see DOD 4270.1-M, *Construction Criteria Manual*. Recommended space allocations are summarized in Table 7 - 79. For detailed description and recommended allocations see TM 5-803-12.



7 - 24

Package Liquor Stores

This facility provides for retail sales to authorized customers and the transfer (wholesale) of alcoholic beverages to clubs and open messes. Space allowances for these facilities are shown in Table 7 - 80.

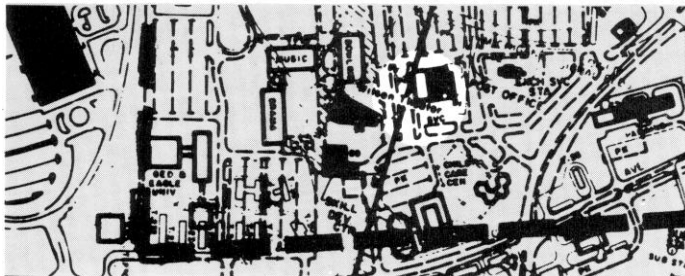
Package liquor stores are an active retail attractor, and should be located to capitalize on this. Like other retail functions, they should be located together with other community activities and services in the Main Post Center, wherever possible.

Table 7 - 80 DOD Space Authorization for Package Liquor Stores

CONUS/Annual Case Sales ^{1,2}	Overseas/Authorized Customers	Area (Gross SF)
2,000	500	900
5,000	1,000	1,950
10,000	1,500	2,950
15,000	2,000	3,900
20,000	3,000	5,900
30,000	4,000	7,800
40,000	6,000	10,000

¹Includes Alaska and Hawaii.

²Annual total case sales both retail and transferred to clubs and open messes.



7 - 25

Post Offices

Table 7 - 81 DOD Space Authorization for Central Post Offices

Installation ¹ Population	Central Post Office Area (Gross SF) ²
1 - 500	400
1,001 - 2,500	1,750
4,501 - 7,500	4,500
11,501 - 16,500	8,250
22,501 - 28,500	12,525
34,501 - 40,500	17,325
46,501 - 52,500	22,125

¹ Installation population consists of assigned military personnel and their dependents, plus civilian personnel who work on the installation.

² Exclusive of space required for loading platforms.

(a) *Central Post Offices.* Space allowances for central post offices are shown in Table 7 - 81. These figures represent the basic central post office square footage and are provided for general guidance. Additional space may be provided if a central post office serves specialized functions located on the military installation, such as post directory, nonresident schools, major and subordinate headquarters, service schools, hospitals, carrier delivery to family housing units, or self-service postal units installed within the lobby of the facility.

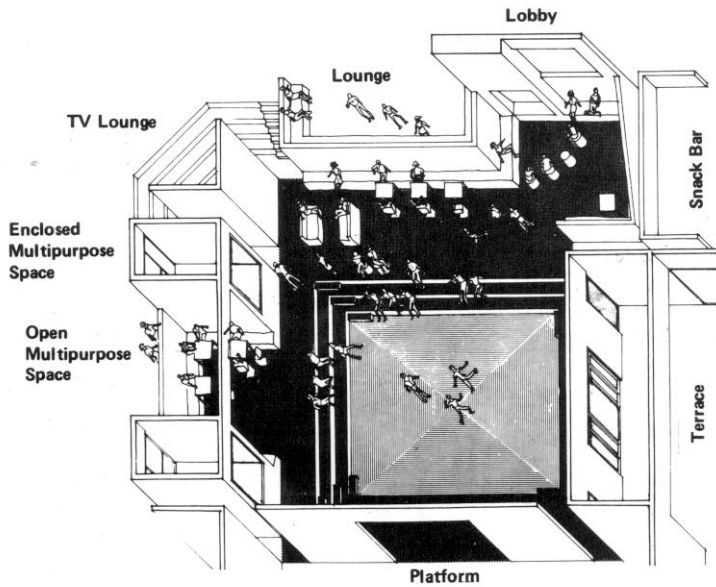
Determination of specific total requirements and space provisions for specialized functions (as listed above) shall be coordinated with the U.S. Postal Services Regional Postmaster General. This should be accomplished during the initial planning stage to arrive at a mutually agreeable gross area.

Siting of central post offices should provide convenient relationship to post-wide retail and community service facilities at the Main Post Center. Clustered or consolidated accommodation with such functions as bank, commissary, PX and specialized retail outlets is recommended.

(b) *Branch Post Offices.* Branch post offices, not exceeding 1,500 gross square feet each, may be provided as required at larger installations.

Table 7 - 83 Recommended Space Allocation for Recreation Centers

Sub-Space	Size (Gross SF) based on Military Population		
	501-2,000	2,001-4,000	4,001-5,000
Transitional Spaces	180	420	600
Entry Lobby	180	420	600
Large Group Activities	5,520 +	6,660 +	7,680 +
Central Program Area	3,600 +	4,500 +	5,400 +
Platform Area	1,620	1,860	1,980
Pantry	300 +	300 +	300 +
Small Group Activities	4,215	8,450	10,615
Active Games Area	1,790 +	3,240 +	4,545 +
Television Lounge	900 +	1,260 +	1,500 +
Table Games Area	900	900	900
Open Multi-Purpose Area	180	540	720
Enclosed Multi-Purpose Area	180	540	720
Telephone Lounge	120	240	360
Carrels	145	290	430
Special Interest Area	-	1,440	1,440
Administration	1,020	1,510	2,140
Administrative Offices	480	600	930
Information, Tour and Travel	60	130	250
Control Center	480	780	960
Refreshment	1,020	1,980	7,980
Vending Area	1,020	1,980	-
Snack Bar	-	-	4,140
Amusement Centers	-	-	3,840
Service Areas	755	935	1,075
Maintenance	215+	215+	215+
Public Toilets	540	720	860
Total Recreation Center	12,710	19,995	30,085
Total Allowed By DOD	12,700	19,800	27,800
Outdoor Activities	3,200 +	3,850 +	4,500 +
Terrace	3,000	3,600	4,200
Entry Court	200 +	250 +	300 +



Central Program Area

a. Large Group Activities

(1) Central Program Area

(a) *Description.* The central program area houses large group activities such as dance events, festivals, exhibits, game activities, informal entertainment presentations, short films, and TV viewing.

(b) *Space Allocation.* See Table 7 - 83.

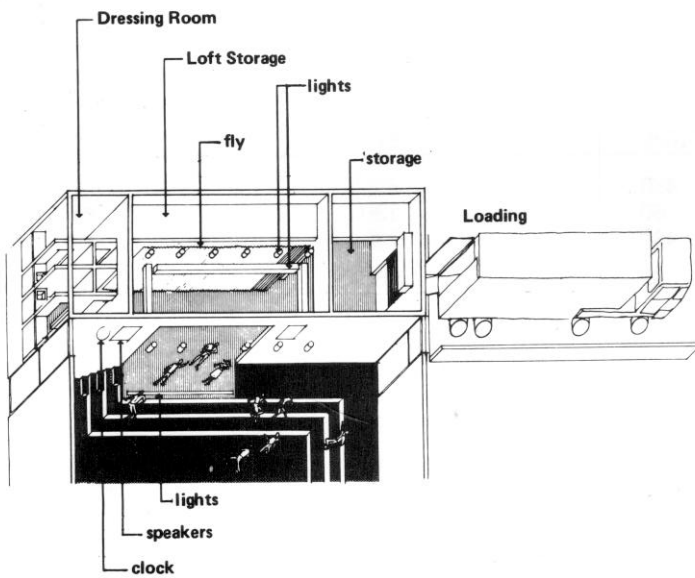
(c) *Relationships.* The central program area- should be encircled by compatible small group activity areas and should be immediately accessible to the pantry, terrace, eating areas, control center, toilet rooms, and storage area for tables and chairs. It should be remote or acoustically separated from noisy activities such as pool, ping-pong, electric games, combo practice and special interest activities.

(2) Platform and Backstage with Recmobile

(a) *Description.* The platform provides a focus during large group activities, a place for seating and an activity space for small groups.

(b) *Space Allocation.* See Table 7 - 84.

(c) *Relationships.* The platform is the focus point of the central program area and should be located either in the center or in a prominent position visible from all parts of the program area.



Platform

Table 7 - 84 Space Allocation for Platform and Backstage with Recmobile

Sub-Space	Size (Gross SF) based on Military Population		
	501-2,000	2,001-4,000	4,001-5,000
Platform	900	900	900
Dressing	240	300	360
Storage	360	540	600
Loading	120	120	120
Total	1,620	1,860	1,980

(3) Pantry

(a) *Description.* The pantry houses equipment for food preparation and service for large group and individual patrons. Small cooking classes and demonstrations are also held in the pantry.

(b) *Space Allocation.* See Table 7 - 83.

(c) *Relationships.* The pantry should be immediately accessible to the central program area. It should be near the administrative offices and the control center.

b. Small Group Activities

(1) Active Games Area

(a) *Description.* This area houses games that are physical or noisy such as billiards, pingpong, shuffle board, air hockey, table soccer and electric games. Games are played individually or as part of a tournament program. Provide space for people who are watching or waiting to participate.

(b) *Space Allocation.* See Table 7 - 83.

(c) *Relationships.* Locate the active games area near the control center for equipment distribution and surveillance. Acoustic separation must be provided between noisy and raucous activity spaces and all other function-areas.

(2) Television Lounge

(a) *Description.* This area houses TV viewing areas. Provide several viewing areas (at least two) throughout the center, in a variety of settings.

(b) *Space Allocation.* See Table 7 - 83.

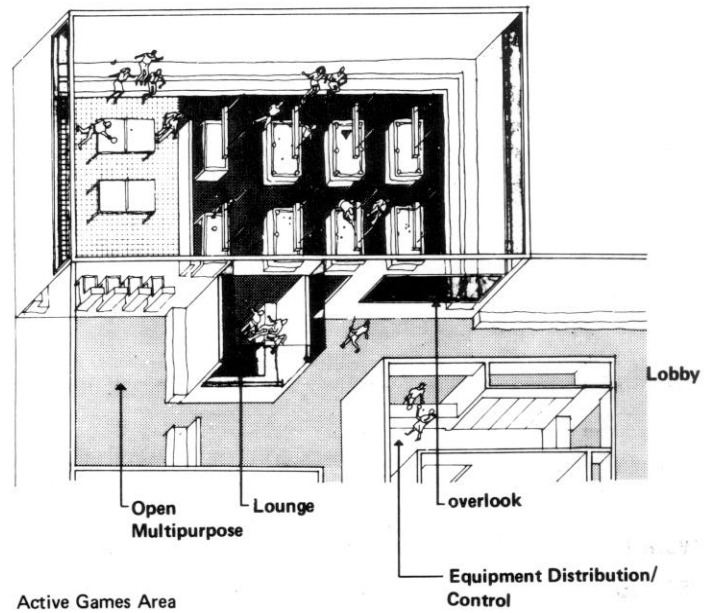
(c) *Relationships.* The television viewing area should be located away from noisy activities such as billiards, pingpong, electric games, music practice, and special interest.

(3) Table Games Area

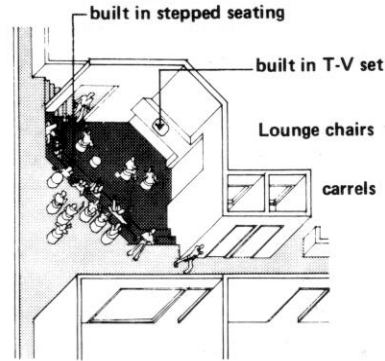
(a) *Description.* These areas house activities such as card games, table games, tournaments, meetings, group discussions, classes, reading, or music and listening. It should be an informal space that encourages participation and observation.

(b) *Space Allocation.* See Table 7 - 85.

(c) *Relationships.* The table games area should be near the pantry and vending area, and remote from noise generating activities such as billiards, pingpong, electric games and music practice. It may act as an extension or overflow space for a snack area.



Active Games Area



Television Lounge

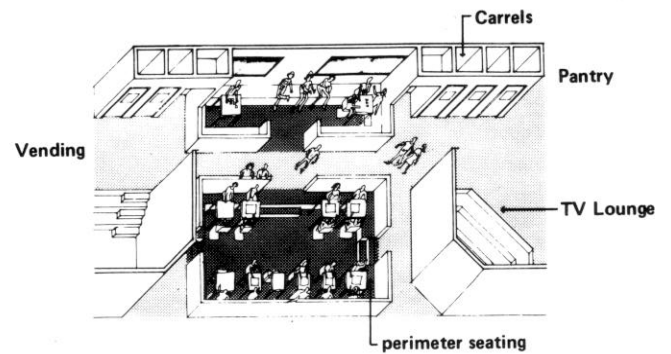


Table Game Area

Sub-Space	Size (Gross SF) based on Military Population		
	501-2,000	2,001-4,000	4,001-5,000
Small Games	180	180	180
Large Games	720	720	720
Total	900	900	900

(4) Open Multi-Purpose Area

(a) *Description.* This area provides for activities that require work space, such as sewing, newsletter publication, and special projects. Small and large spaces should be provided for different simultaneous activities.

(b) *Space Allocation.* See Table 7 - 83.

(c) *Relationships.* The entrance into the area should encourage casual observation of the activity by patrons in the transition area. It should be located near the staff workroom and the control desk.

(5) Enclosed Multi-Purpose Area

(a) *Description.* This area provides space for activities that require acoustical privacy. These include listening to records and tapes, speakers or other presentations, combo practice, group meetings, or private discussions. Small and large multi-purpose areas should be provided for simultaneous activities.

(b) *Space Allocation.* See Table 7 - 83.

(c) *Relationships.* These activities must not interfere with administrative offices or quiet activities such as reading, writing, conversing, or viewing television. However, this space should be near the control center for distribution of instruments.

Since these activities attract onlookers, develop the entries to invite the casual passerby to stand and watch the event before deciding to enter or move on.

(6) Telephone Lounge

(a) *Description.* This lounge houses a twenty-four-hour telephone facility for use by all personnel. Activities are generally limited to making calls (both short and prolonged) and waiting for calls.

(b) *Space Allocation.* See Table 7 - 83.

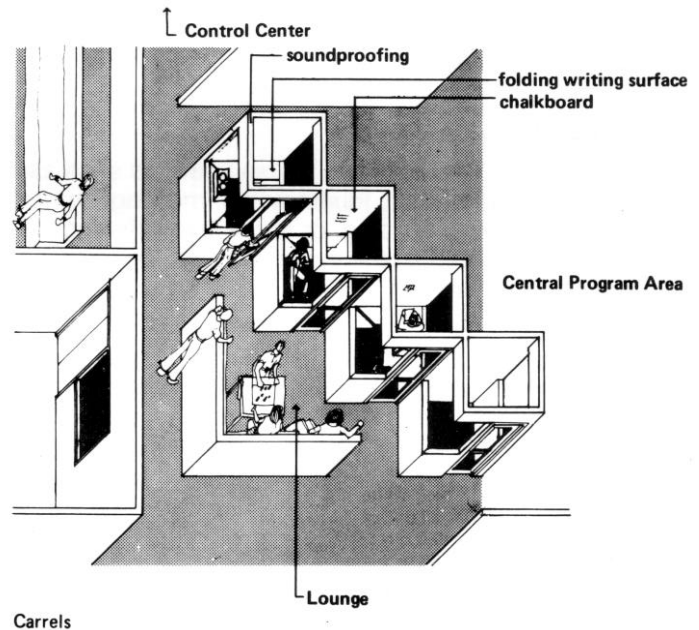
(c) *Relationships.* The telephone lounge should be immediately accessible from the main entrance and the ITT office. The telephone lounge should have exterior access for twenty-four-hour service (secure from the remainder of the facility after hours).

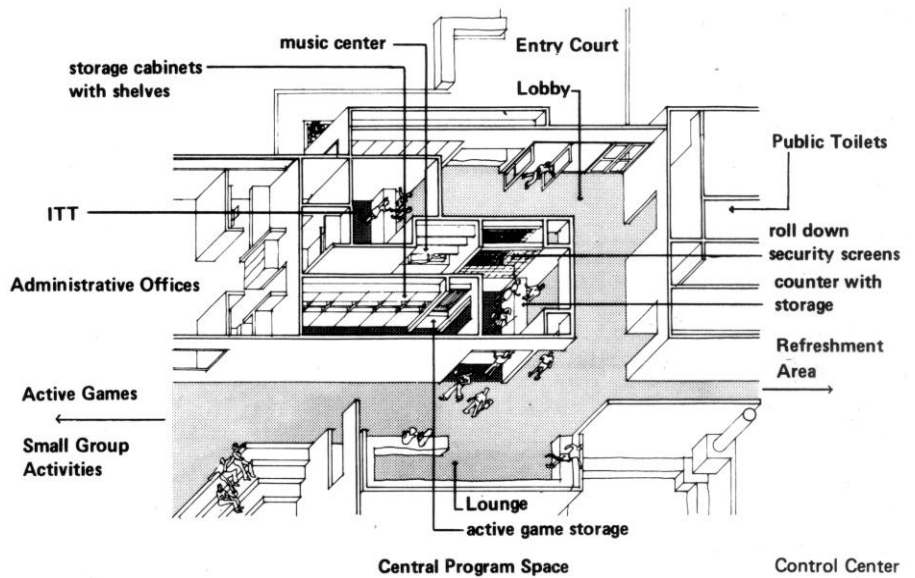
(7) Carrels

(a) *Description.* Carrels provide a private environment for reading, writing, music listening, conversing, etc.

(b) *Space Allocation.* See Table 7 - 83.

(c) *Relationships.* Locate carrels to maintain a visual link to the center of the central program area and provide the opportunity to overlook other activities.





(8) Special Interest Area

(a) *Description.* This space houses special interest programs such as classes, small presentations, clubs, and coffeehouse activities. These may take place at hours when the remainder of the facility is closed, as well as when it is open.

(b) *Space Allocation.* See Table 7 - 86.

(c) *Relationships.* Locate adjacent to, and immediately accessible to the lobby, toilets, and outside. It must be designed to operate independently of the center.

Table 7 - 86 Space Allocation for Special Interest Area
Size (Gross SF) based on Military Population

Sub-Space	501-2,000	2,001-4,000	4,001-5,000
Meetings	-	1,200	1,200
Office	-	120	120
Storage	-	120	120
Total		1,440	1,440

c. Administration

(1) Control Center

(a) *Description.* The control center serves as the general information off ice, equipment storage and distribution point. From this area the recreation staff maintains visual control over the facility, and operates the P/A system, TV and record/tape systems.

(b) *Space Allocation.* See Table 7 - 83.

(c) *Relationships.* The control center should be adjacent to, and visible from, the entrance lobby and administrative offices. It should be near the central program area, pantry, telephones, activities requiring distribution of equipment, public toilets and janitor's closet.

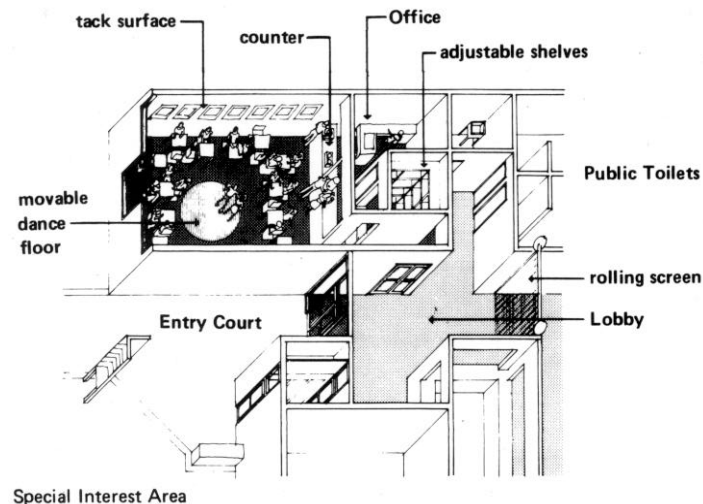


Table 7 - 87 Space Allocation for Administrative Offices

Sub-Space	Size (Gross SF) based on Military Population		
	501-2,000	2,001-4,000	4,001-5,000
Office	360	360	600
Meeting	120	120	150
Work	-	120	180
Total	480	600	930

Table 7 - 88 Space Allocation for Information Tour and Travel (ITT)

Sub-Space	Size (Gross SF) based on Military Population		
	501-2,000	2,001-4,000	4,001-5,000
Counter	60	60	60
Office	-	-	120
Lounge	-	70	70
Total	60	130	250

Table 7 - 89 Space Allocation for Vending Area

Sub-Space	Size (Gross SF) based on Military Population		
	501-2,000	2,001-4,000	4,001-5,000
Dining	600	1,290	-
Vending	240	390	-
Games	180	300	-
Total	1,020	1,980	-

(2) Administrative Offices

(a) *Description.* The administrative offices provide work and conference space for recreation center staff. The activities include consulting, meeting, lounging, preparing graphics and indirectly monitoring center activities.

(b) *Space Allocation.* See Table 7 - 87.

(c) *Relationships.* The administrative offices should have immediate access to the control center, information tour and travel, and the lobby.

(3) Information Tour and Travel (ITT)

(a) *Description.* ITT provides space for ticket dispensing, planning trips, looking at maps, making reservations, viewing projection presentations and conversing in small groups.

(b) *Space Allocation.* See Table 7 - 88.

(c) *Relationships.* All ITT areas should be immediately accessible to the lobby and telephones. In facilities of 12,700 SF or less, ITT is consolidated with the control center.

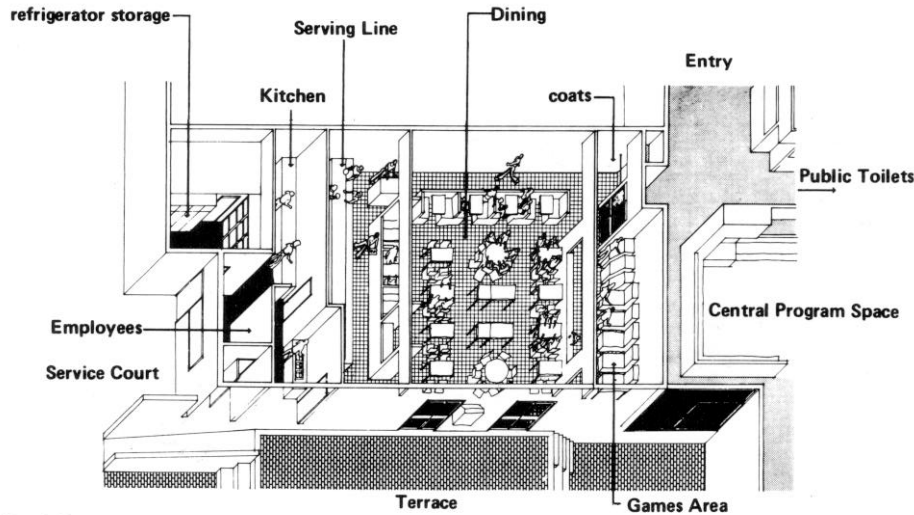
d. Refreshment Activities

(1) Vending Area

(a) *Description.* This area provides space for vending machines, electric games that are operated by AAFES, and a few snack tables.

(b) *Space Allocation.* See Table 7 - 89.

(c) *Relationships.* The vending area should be located near the lobby, separate from but visually connected to other recreation center areas. The area should be visible and directly accessible from the central program area.



Snack Bar

(2) Snack Bar

(a) *Description.* Provide a snack bar with full food service, if there are no other permanent exchange facilities available in the immediate area. Activities include preparation of food, dining, and playing electrically operated games.

(b) *Space Allocation.* See Table 7 - 90.

(c) *Relationships.* The snack bar should be immediately accessible from the lobby. It should be possible to lock other areas so that the snack bar can operate when the rest of the center is closed. The AAFES game area should be adjacent to the snack bar area.

Table 7 - 90 Space Allocation for Snack Bar

Sub-Space	Size (Gross SF) based on Military Population		
	501-2,000	2,001-4,000	4,001-5,000
Dining	-	-	1,680
Serving	-	-	840
Kitchen	-	-	1,200
Games	-	-	420
Total	-	-	4,140

(3) Amusement Centers

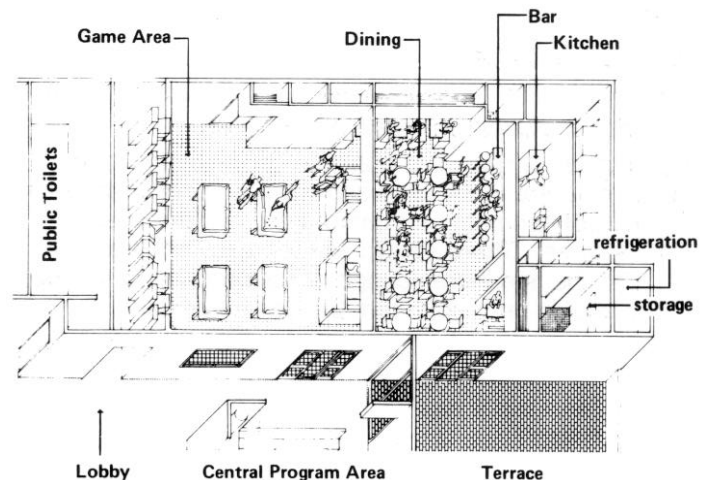
(a) *Description.* Amusement centers provide a large area for coin operated skill and pinball machines, and a limited food service (primarily pizza and beer).

(b) *Space Allocation.* See Table 7 - 91.

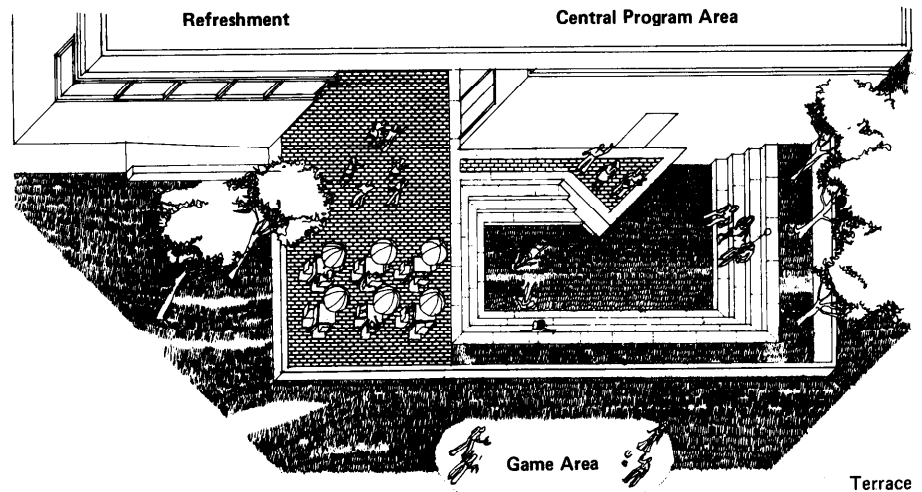
(c) *Relationships.* The amusement center should be immediately accessible from the lobby and terrace. Toilet rooms should be nearby. All other areas should be secured from the amusement center after the recreation center closes. Locate the amusement center away from the active game area.

Table 7 - 91 Space Allocation for Amusement Centers

Sub-Space	Size (Gross SF) based on Military Population		
	501-2,000	2,001-4,000	4,001-5,000
Game Area	-	-	1,800
Dining Area	-	-	1,200
Preparation	-	-	840
Total	-	-	3,840



Amusement Center



e. Transition and Service Areas

(1) Entry/Lobby

(a) *Description.* The entry/lobby serves as a controlled entrance and exit for the center. The entrance can also be used to display information about current activities and orient visitors to the plan of the center.

(b) *Space Allocation.* See Table 7 - 83.

(c) *Relationships.* The lobby should be adjacent to and visible from the control desk and ITT. Provide easy access to AAFES snack bar and vending area or amusement center, special interest area, public toilets, and telephone lounge.

(2) Maintenance Areas

(a) *Description.* Activities in this area include delivery of supplies and equipment, removal of trash, maintenance of plumbing, mechanical equipment, parking and landscaping.

(b) *Space Allocation.* See Table 7 - 83.

(c) *Relationships.* Utilities should be located near the kitchen loading areas and the common driveway, to centralize service-related activities. Trash removal for the various activities should occur at the appropriate loading area.

(3) Public Toilets

(a) *Description.* These toilets serve visitors and staff.

(b) *Space Allocation.* See Table 7 - 83.

(c) *Relationships.* The public toilet area should be adjacent to the lobby area and near the control center, AAFES refreshment and game area, and the special interest area. There should also be easy access from ITT and the telephone lounge. The entrance to the toilet areas should be visible from the control center.

f. Outdoor Activities

(1) Terrace

(a) *Description.* The terrace provides space for barbecuing, presentations, horseshoes, shuffleboard, dancing, etc. The space may be subdivided to simultaneously accommodate activities.

(b) *Space Allocation.* See Table 7 - 83.

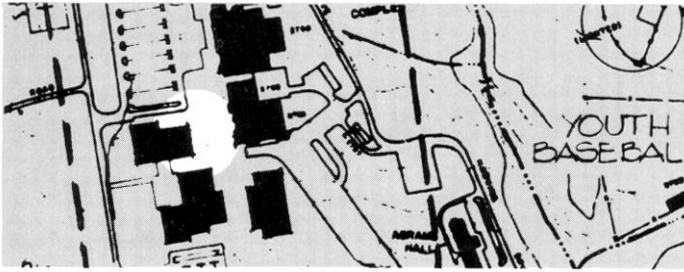
(c) *Relationships.* The terrace should be located adjacent to the central program area and the refreshment area. It should also be near the pantry in order to prepare food for barbecues. Terraces should be oriented to take advantage of the sun and natural shade.

(2) Entry Court

(a) *Description.* The entry court serves as a visual focus for the center, and a place to gather informally when entering or leaving the building.

(b) *Space Allocation.* See Table 7 - 83.

(c) *Relationships.* The entry court should be connected to pedestrian circulation, the parking lot, and a drop-off area. In severe climates, consider providing a covered access to the drop-off area. The entry court should lead to the building entry and telephone lounge.



7 - 27

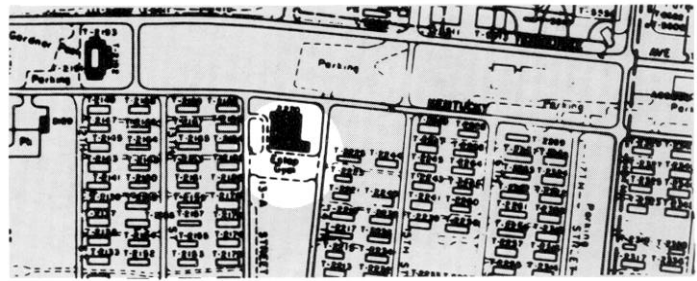
Restaurants

Table 7 - 93 DOD Space Authorization for Installation Restaurants

Number of Civilian Employees	Area (Gross SF)
1 - 500	None
501 - 700	4,900
701 - 1,000	8,700
1,001 - 1,500	12,000
1,501 - 2,000	15,700
2,001 - 2,500	19,200
2,501 - 3,000	22,800
3,001 - 3,500	27,000
3,501 - 4,000	30,500
4,001 - 4,500	33,900
Over 4,500	37,000

If adequate food service facilities are not available for a significant number of civilian employees, an installation restaurant may be established. Installation restaurants normally are not established where the number of civilians to be served is less than 500. However, consideration should be given to providing snack bar and/or vending machine service. If it is necessary to provide service for more than 5,000 employees, two or more restaurants may be provided as determined by an appropriate economic study. Space allowances for installation restaurants are shown in Table 7 - 93.

Where installation restaurants are provided, they should be integrated into the Community Activity Center - either located together in a complex or consolidated in a single structure with other retail and MSA services. The restaurant function is supportive and interactive with the other CAC activities. This may involve location in Main Post or Local Centers, convenient for the civilian user population. This organization should emphasize the integration of the civilian employee population into the whole post community.



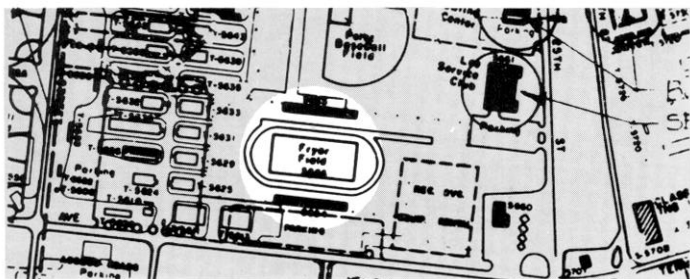
7 - 28

Roller/Ice Skating Rinks

A roller/ice skating rink requires a hard-surface floor with a potential for multipurpose use. The facility may include administrative space, maintenance, equipment storage, snack bar, kitchen space, locker and spectator areas.

Table 7 - 94 DOD Space Authorization for Roller/Ice Skating Rinks

<u>Military Population</u>	<u>Gross SF (not including mechanical room space)</u>
0 - 2,000	10,000 (plus additional space for support functions)
2,001 - 20,000	15,000 (including support functions)
over 20,001	20,000 (including support functions)



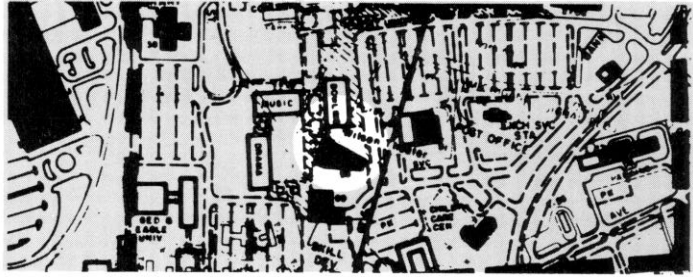
7 - 29

Stadiums

Table 7 - 95 DOD Space Authorization for Stadiums

<u>Military Strength</u>	<u>Seating Capacity</u>
over 10,000	maximum one-third of installation military strength

At installations with a military strength over 10,000, a stadium with a seating capacity not to exceed one-third of the installation military strength may be provided. In addition, a separate regulation baseball field, with bleachers of seating capacity not to exceed one-third of the installation military strength, may be provided. Both the stadium and the baseball field may be lighted for night play. While the function of these facilities may be related to physical fitness centers, their large population access and parking requirements will probably determine their own separate location.



7 - 30

Theatres

At installations where entertainment motion picture service has been established, theatres may be provided in accordance with Table 7 - 96 and 7 - 97.

Theatres are primarily used for screening movies and are typically separate from MSA entertainment operations, although shared space usage may be considered. However, their location and operation should be coordinated with MSA, and other leisure and entertainment programs, for convenient sharing of support facilities such as snack bars and parking, and for mutual attraction and exposure benefits. The access and parking requirements of theatres places heavy demands on vehicular movement patterns, but may provide complementary sharing potentials with other recreational and retail facilities. Integration into Main Post Community Activity Centers is recommended.

Table 7 - 96 DOD Allowance Criteria for Theatres

<u>Military Strength</u> ¹	<u>Number and Capacity of Theatres</u> ²
1 - 300	Accommodate in other facilities
301 - 1,000	1, General purpose facility
1,001 - 2,000	1, 350-seat with dressing rooms
2,001 - 3,000	1, 550-seat with dressing rooms
3,001 - 7,000	1, 1000-seat with dressing rooms
7,001 - 10,000	1, 1000-seat with dressing rooms and
	1, 500-seat with dressing rooms
10,001 - 15,000	1, 1000-seat with dressing rooms and
	2, 500-seat with dressing rooms
15,001 - 20,000	1, 1000-seat with dressing rooms and
	3, 500-seat with dressing rooms
20,001 - 25,000	1, 1000-seat with dressing rooms;
	1, 1000-seat with dressing rooms, and
	2, 500-seat with dressing rooms

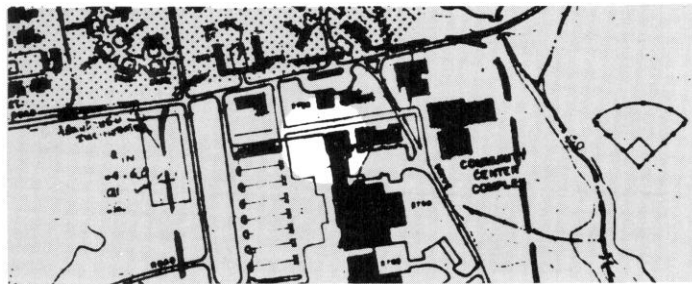
¹When military strength exceeds 25,000, the number and size of theater facilities authorized (in excess of 4 theaters), will be determined by the particular requirements of the installation. Justification will be coordinated with the Army and Air Force Exchange Service. Theaters, auditoriums and drama centers should be combined usage facilities wherever practicable.

Military strength includes active duty plus 50% of dependents.

²All facilities listed will be provided with a stage.

Table 7 - 97 DOD Space Criteria for Theatres

<u>Theatre Capacity</u>	<u>Area (Gross SF)</u>	
	<u>With Dressing Rooms</u>	<u>Without Dressing Rooms</u>
General purpose facility	3,500	3,500
350 seats	6,500	5,800
500 seats	10,900	9,600
1,000 seats	17,200	15,500



7-31

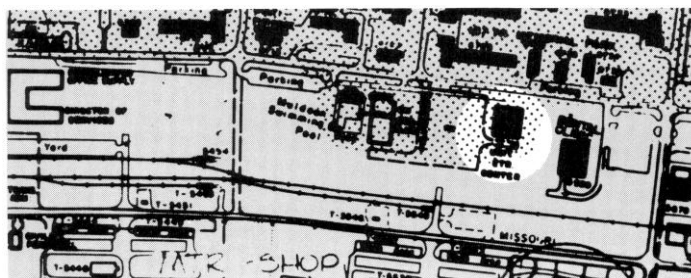
Thrift Shops

Table 7 - 98 DOD Space Authorization for Thrift Shops

Military Strength	Area (Gross SF) ¹
1 - 2,000	1,400
2,001 - 4,000	2,000
4,001 - 6,000	2,700
6,001 - 8,000	3,400
8,001 - 10,000	4,000
10,001 - 12,000	4,500
12,001 - 14,000	4,905
Over 14,000	5,350

Thrift shops may be established in order to provide a non-profit facility for the sale and purchase of used apparel, household furniture, furnishings, and equipment. Their location should be integrated in a Community Activity Center, just as other retail and service operations are.

¹ Environmental adjustment factors to be applied to the authorized space allowances for installations with military strength over 2,000 are found in DOD 4270.1-M.



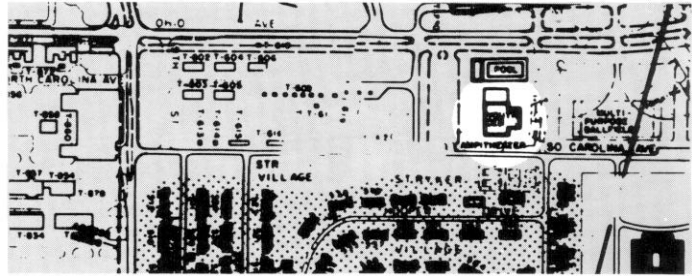
7-32

Unit Entertainment Centers

Table 7 - 99 DOD Space Authorization for Unit Entertainment Centers

Unit Military Strength	Area (Gross SF)
850	3,500
3,000	9,000

Unit entertainment centers are intended to provide facilities for the organization, preparation and performance of unit-oriented entertainment activities. They should include practice rooms, offices, equipment check-out and repair areas, technical shops, and an auditorium with stage and seating. The provision of facilities shall be based upon the number and disposition of units on the particular installation. Authorized space allowances are found in Table 7 - 99. However, this facility is provided only when it has been conclusively demonstrated that there is no existing facility that can meet the requirement on a joint use basis. Siting of unit entertainment centers should provide for maximum convenience to unit personnel, preferably within or adjacent to the barracks complex or billeting area.



7 - 33

Youth Centers

DG 1110-3-138

The youth activities program performs a morale support function by providing a comprehensive system of activities designed to meet the social, cultural, and recreational needs of children and young military dependents; to encourage their constructive use of leisure-time; to develop their leadership abilities and self-reliance; and to develop traits of responsible citizens. This important service is not otherwise available on the installation, and is typically inadequately served by activity programs (e.g., city and county recreation programs, Y's, community schools, etc.) in surrounding civilian communities.

The youth activities program serves military dependents 6 through 19 years of age. The program should provide for the full range of users whose composition, subgroupings, and interests, will vary from post to post. The activities offered at each installation will vary depending on local preferences, geographic and climatic conditions, available staff and facilities, and other local considerations.

The basic decision involved in the planning of youth activities facilities is whether the installation should have a centralized or a decentralized system. A centralized system would have one main youth center serving the entire post. A decentralized system would have a set of youth centers, with one main center serving the entire post for the activities that warrant a central location, and neighborhood centers located to serve geographical subgroups of the post population. Other factors to be considered in youth activities planning include: general installation layout, location of existing buildings and sport fields, availability of building sites, geographic barriers, needs of user population, and distribution of off-post youth population.

The major functional areas of youth centers include a drop-in module, programmed space module, large space module, administration and support module, and outdoor module.

Table 7 - 100 DOD Space Authorization for Youth Centers

Youth Population ¹	Area (Gross SF)
1 - 250	Accommodate in other facilities
251 - 600	6,700
601 - 1,200	9,000
1,201 - 2,400	11,340
2,401 - 4,800 ²	18,500

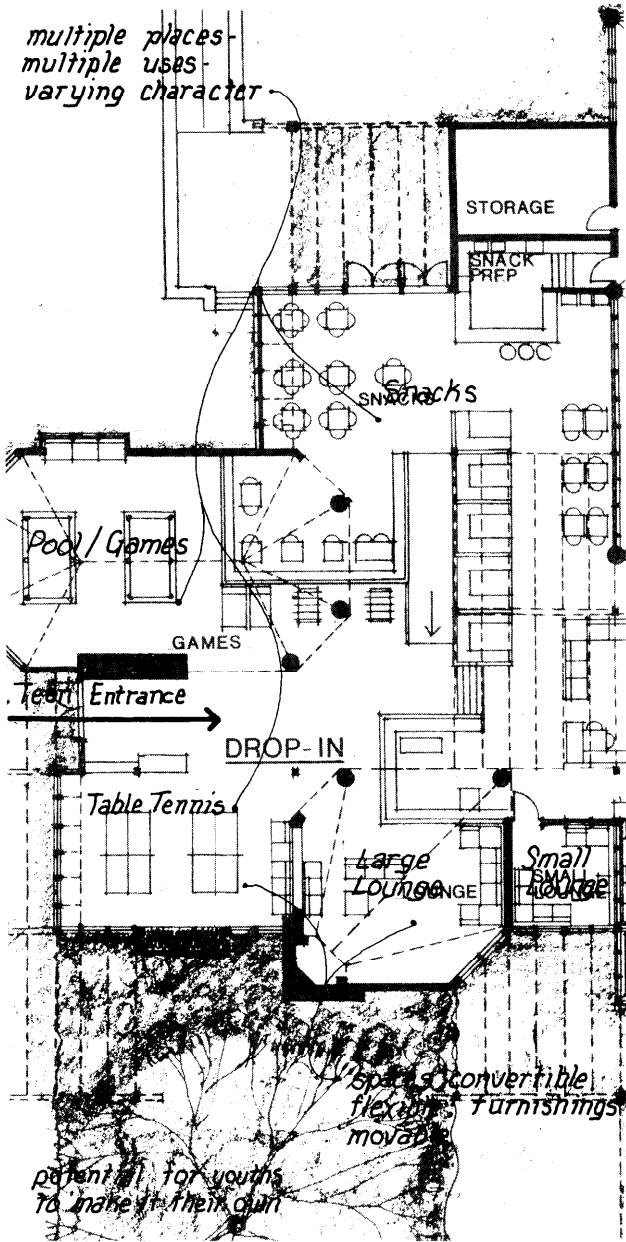
¹Youth population shall be established by determining the school enrollment of active duty military and authorized civilian employee dependent youth ages 6 to 19 in local school districts, on or off post.

²For each increment of 2,400 eligible dependent youth population above 4,800, an additional 9,240 square feet may be provided.

Table 7 - 101 Recommended Space Allocation for Youth Centers

Sub-space	Size (Gross SF) based on Youth Population					
	Main				Neighborhood	
	251-600	601-1200	1201-2400	2401+	251-600	601 +
Drop-in Module	930	1,730	2,350	3,650	1,150	1,920
Game Room	330	575	800	1,350	550	800
Lounges	400	675	850	1,150	400	700
Snack Facilities	200	480	700	1,150	200	420
Programmed Spaces Module	670	1,020	1,350	2,450	670	1,020
Meeting Spaces	340	680	820	1,400	340	680
Projects Space	330	340	530	1,050	330	340
Large Space Module	1,760	2,550	4,780	7,150		
Large Activity Space	1,600	2,300	4,300	6,400	-	-
Storage	160	250	480	750	-	-
Administration and Support Module	1,510	2,240	3,310	6,000	1,120	1,320
Entry and Circulation	740	1,050	1,600	3,300	550	700
Supervision and Administration Spaces	250	300	400	600	100	100
Toilets and Lockers	300	480	720	1,190	300	300
General Storage	200	390	550	850	150	200
Maintenance	20	20	40	60	20	20
Mechanical Room*	(350)	(500)	(650)	(800)	(150)	(300)
Total	4,870	7,540	11,790	19,250	2,940	4,260
Outdoor Module *	5,600	6,700	8,300	11,000	3,400	4,500
Outdoor Activity Spaces *	5,000	6,000	7,500	10,000	3,000	4,000
Entry Space *	600	700	800	1,000	400	500

*Not included in Center allocation totals or authorized square footage.



a. Drop-in Module

(1) Game Room

(a) *Description.* The game room will mainly be used for active, moderately noisy sports like table tennis, billiards, and electronic game machines. Board games may also be played here. Space should also be provided for observing, waiting and lounging. This space should be convertible for large group activities, such as dances, dramatic presentations, large meetings, or for additional lounge space. To provide this flexibility, large amounts of storage space are required.

(b) *Space Allocation.* See Table 7 - 101.

(c) *Relationships.* The game space must be directly accessible to, and visible from, the entry, as well as the circulation area and the supervisor's desk. It would also be desirable to have access and visibility to the game room from the lounge spaces (to combine them for various large functions), the snack facilities and an outdoor activity space. The game space must be able to be isolated acoustically from one of the lounges, and from other major functions such as programmed and large activity spaces.

(2) Lounges

(a) *Description.* Both large and small lounges should be provided. The large lounge will be used primarily for socializing, conversation groups, small meetings, table games, snacking, small dances, music listening, or for a large group watching special events or television.

The small lounge will be for a single conversation group, a few people watching television, or solitary activities such as reading. Some part of the lounges should always be available for quiet activities like studying, reading, intense conversations, and individual use of video or audio tape cassettes. The small lounge can be made a part of the lobby, game or snack space, so long as it is acoustically isolated from the large lounge.

(b) *Space Allocation.* See Table 7 - 102.

Drop-in Considerations

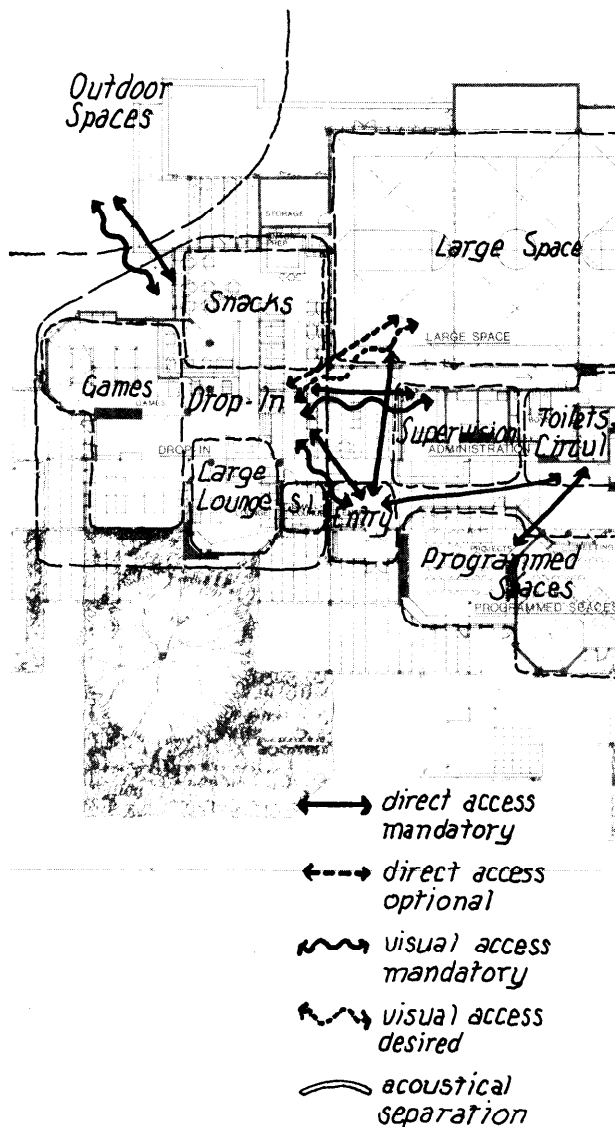
(c) *Relationships.* The large and small lounges should be directly accessible from the entry, and a major portion should be visible from the entry and the supervisor's desk. The large lounge must also be directly accessible to, and have views of, an outdoor activity space and snack facilities. Ideally, the lounges should also have access and visibility directly to the game room or large activity space, to act as extensions of these spaces and have easy access to the toilets. The most important acoustical separation is to permit one of the lounges to be isolated and quiet while there is noise elsewhere in the building.

(3) Snack Facilities

(a) *Description.* Snack service should be scheduled for those hours when the center is open as a drop-in facility (generally after school, evenings and weekends). The food preparation area will be manned by part-time staff, teenagers, or volunteers. The food storage areas should be lockable. This area should be supplemented by 2 to 4 vending machines for soft drinks, candy, and package foods. The snack preparation area can occasionally be used as a pantry for catering of large groups for light meals, to be served in the large lounge or activity space, and for cooking classes and clubs.

(b) *Space Allocation.* See Table 7 - 101.

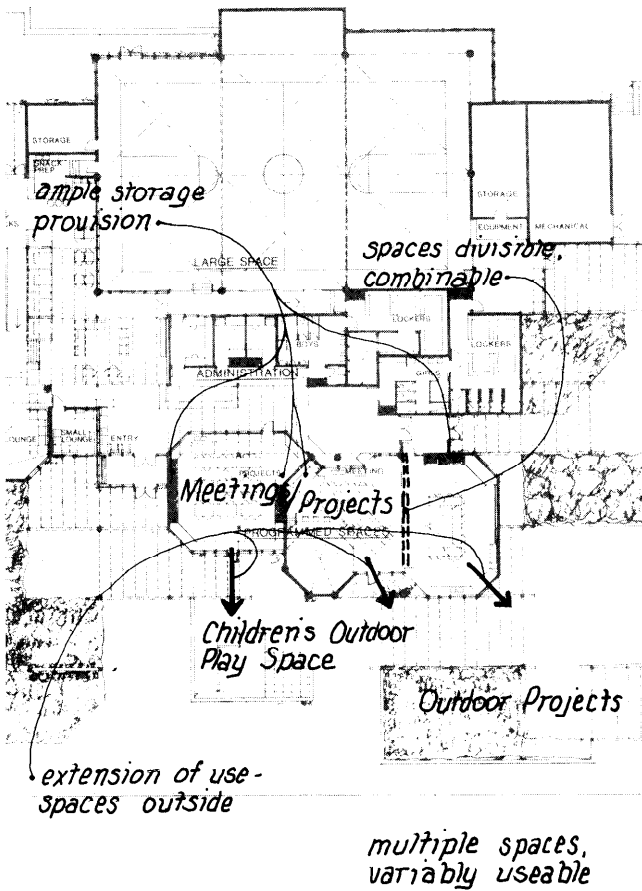
(c) *Relationships.* The snack bar must be visible and readily accessible from the entry, as one of the inviting, easy-to-join activity spaces for newcomers. It should also have good access and visibility from the game room, small lounge, and supervision desk. The snack preparation area must be adjacent to the eating area, which may overlap with the lounge spaces. It should also have direct access to the large activity space for use as a serving pantry for parties and banquets.



Drop-in Relationships

Table 7 - 102 Space Allocation for Lounges

Sub-space	Size (Gross SF) based on Youth Population					
	Main				Neighborhood	
	251-600	601-1200	1201-2400	2401+	251-600	601+
Large Lounge	250	450	600	900	250	500
Storage	50	75	100	100	50	50
Small Lounge	100	150	150	150	100	150
Total	400	675	850	1,150	400	700



b. Programmed Spaces Module

(1) Meeting Spaces

(a) *Description.* The meeting spaces will be used primarily for scheduled group activities, clubs and meetings, classes, dances/music/gymnastics instruction and practice, and supervised free play for children. The meeting spaces should also accommodate overflow of activities such as crafts, team organization meetings, -or watching special events on television. Also, because these spaces can be secured, they can be used for dressing areas for dramatic groups, rehearsal areas for plays and performances, or places where scenery and equipment might be assembled and stored for a short time.

(b) *Space Allocation.* See Table 7 - 102.

(c) *Relationships.* The meeting spaces should be reached indirectly from most other spaces in the center. However, they must have direct access to the general storage, toilet areas, locker rooms, entry, and supervision space. Controlling access to these spaces by direct visual supervision is important. Where two meeting rooms are provided, they must be acoustically isolated from the rest of the center and from each other.

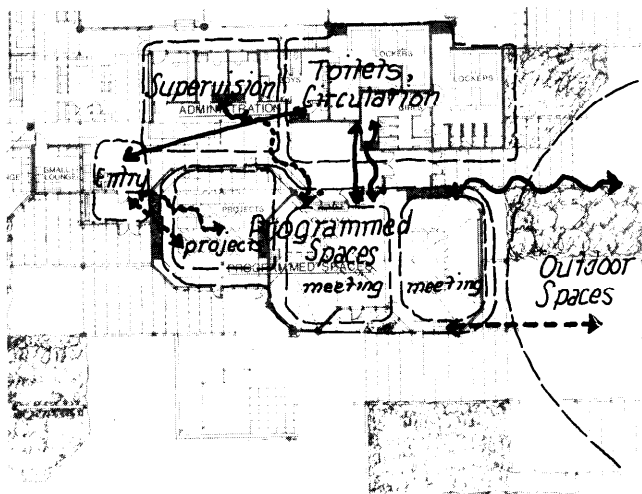
(2) Projects Space

(a) *Description.* The projects space has two primary uses, a place for instruction and a place for individual projects. The projects room should house only small projects and be equipped with light tools. For heavier work, youth activities is expected to utilize other Morale Support Activities facilities.

(b) *Space Allocation.* See Table 7 - 101.

(c) *Relationships.* The projects room must be acoustically separated from the other spaces in the center, and have access to the general storage and toilet facilities (at least through a common circulation area). Its products and activity should be visible to other visitors and users of the facility, its hours of use could be lengthened if it were supervised by outside control. It should also have access to outdoor space for larger projects.

Programmed Spaces Considerations



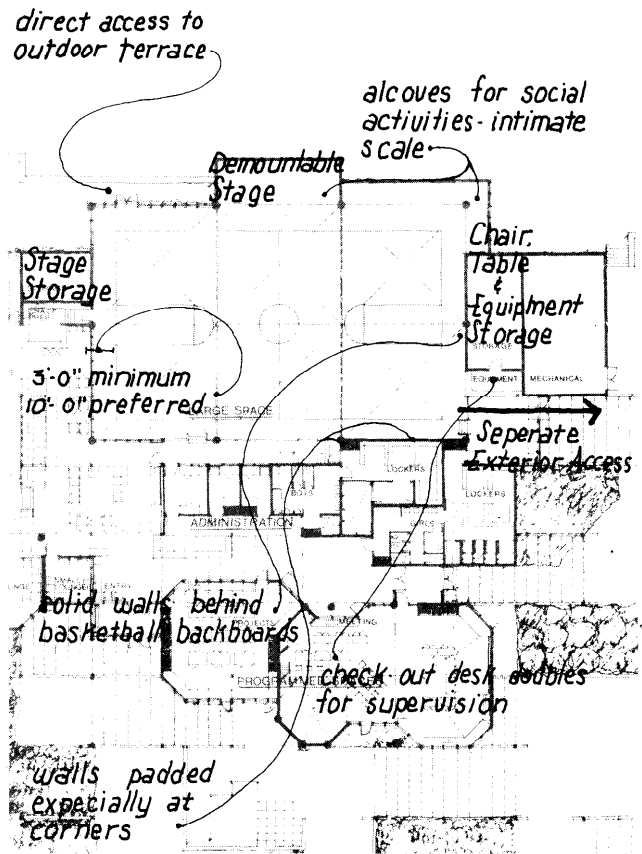
Programmed Spaces Relationships

c. Large Space Module

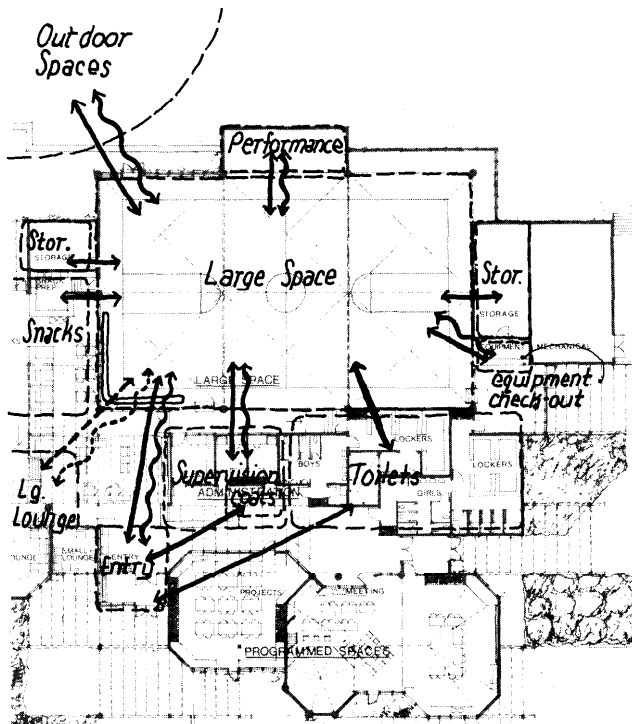
(1) *Description.* The large space module consists of the large activity space, with subspaces such as a stage/platform area, alcoves, and storage. The large space module is included in the program for main youth centers, not neighborhood centers. Some of the activities would take place in neighborhood centers on a smaller scale, but would be housed in the programmed and drop-in spaces. Large and accessible storage for all the functions is necessary for flexible use of the space, particularly for large athletic equipment, stacking chairs, tables, etc.

(2) *Space Allocation.* See Table 7 - 101.

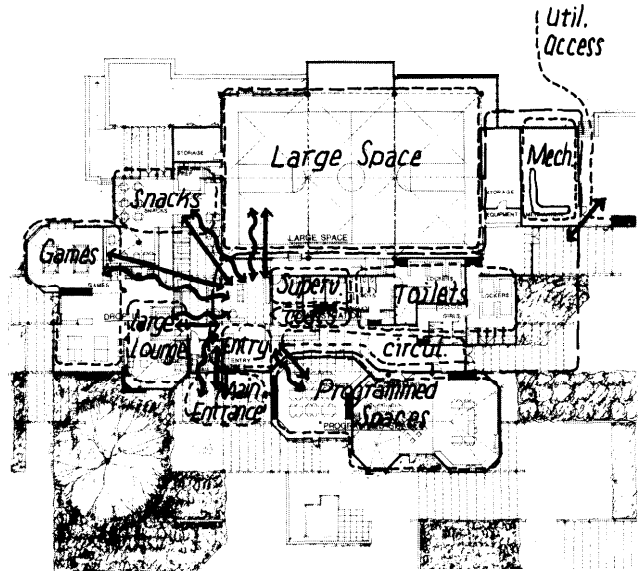
(3) *Relationships.* The large space should be directly accessible from the main entrance lobby, especially during evening functions when the rest of the building may not be in use. Restrooms, coat room, and snack preparation area should also be readily accessible, as should service access for catering and for table and chair storage. Provide convenient exterior access to playing fields and to patio terraces. Visual contact between the entry and drop-in center, and the large activity space, is desirable for spectators and supervisors. The large activity space must also be acoustically separate from other areas of the youth center.



Large Space Considerations



Large Space Relationships



Administration and Support Relationships

d. Administration and Support Module

(1) Entry

(a) *Description.* The entry should be pleasant to be in while waiting for friends to arrive, should orient the new arrival to the various activities of the center, and should be a comfortable place for casual meetings and interactions. It should also accommodate bulletin boards, information kiosks and display cases, for display of trophies or projects and posting information.

(b) *Space Allocation.* See Table 7 - 103.

(c) *Relationships.* The entry should have direct access to most of the center activities, even in the largest centers, and provide good visibility into the activities of most of these spaces. The inside of the entry should be visible to approaching center visitors and users.

(2) Circulation

(a) *Description.* Traffic flows to all activities within the center should be efficient and easy for the visitors to understand. Along the circulation routes, there should be occasional places to gather, particularly near the entry into different modules, to encourage interaction among users.

(b) *Space Allocation.* See Table 7 - 103.

(c) *Relationships.* Access to activities connected by circulation spaces are covered under the activity headings. The hallway to programmed spaces should have a door which can serve as an acoustical barrier and be locked while the drop-in or large space module is being used and the programmed spaces are closed.

Table 7 - 103 Space Allocation for Entry and Circulation

Sub-space	Size (Gross SF) based on Youth Population					
	Main				Neighborhood	
	250-600	601-1200	1201-2400	2401+	250-600	601+
Entry	240	300	500	800	550	700
Circulation	500	750	1,100	2,500		
Total	740	1,050	1,600	3,300	550	700

(3) Supervision and Administration Spaces

(a) *Description.* From a central point of the youth center, one staff person should be able to supervise most center activities and perform administrative tasks such as record keeping, answering the phone, and holding small conferences. Also, youth counseling, information and employment services should operate in this space, as should sign-ups for general youth activities, check-in, identification checking and ticket-taking for dances and performances. In larger centers, the supervision space might be used as a disco booth.

(b) *Space Allocation.* See Table 7 - 101.

(c) *Relationships.* The administration and supervision spaces should permit visual surveillance of a significant percentage of all the activity spaces. Particularly important is direct access and visibility from the entry and central circulation area. The administration office should allow visual and acoustic isolation when required.

(4) Toilets and Lockers

(a) *Description.* Toilets and lockers must serve children, adults and groups changing for sports or performances. There should also be showers in larger youth centers.

(b) *Space Allocation.* See Table 7 - 104.

(c) *Relationships.* The entrances to the boys' and girls' toilets should be separated by as much distance as practicable, and the entrances should be reasonably near to and preferably visible from the supervision desk so that there is some sense of supervision. The toilets should be accessible from the entry or nearby circulation spaces. There should also be a direct connection from the large activity space to the toilets and changing rooms, and reasonably close access from the programmed spaces.

(5) Storage

(a) *Description.* The center needs a large volume of storage because of the diverse functions. Most storage should be adjacent to the space or module in which the stored materials will be used. However, general storage can accommodate the overflow. General storage is needed also to store supplies for special occasions, such as barbecues or parades. If possible, a separate coat-room under supervision should be provide for safe storage of all users' coats.

(b) *Space Allocation.* See Table 7 - 101.

(c) *Relationships.* General storage and coat storage should be located near the staff office, but should be accessible from the circulation space. Other storage should be directly accessible from the space served.

(6) Maintenance and Mechanical Spaces

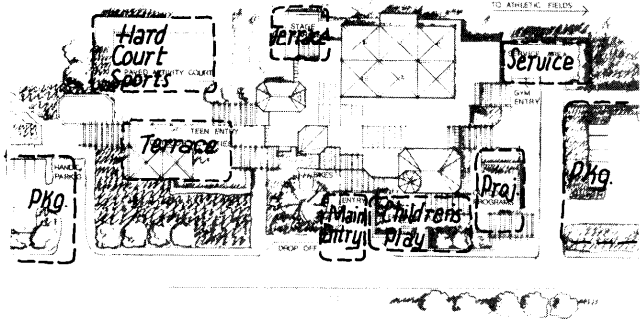
(a) *Description.* Two types of space should be available for maintaining and servicing the building, a maintenance closet and a mechanical room for environmental control equipment.

(b) *Space Allocation.* See Table 7 - 101.

(c) *Relationships.* The maintenance closet should be adjacent to the toilet rooms. The mechanical room must be accessible from the outside only (use will be by facility engineers).

Table 7 – 104 Space Allocation for Toilets and Lockers

Sub-space	Size (Gross SF) based on Youth Population					
	Main				Neighborhood	
	250-600	601-1200	1201-2400	2401+	250-600	601+
Men's Toilets & Changing Rooms	150	240	290	480	-	-
Men's Showers	0	0	70	140	-	-
Women's Toilets & Changing Rooms	150	240	300	440	-	-
Women's Showers	0	0	60	130	-	-
Total	300	480	720	1,190	-	-



multiple spaces for different uses

Outdoor Module Spaces

e. Outdoor Module

(1) Outdoor Activity Spaces

(a) *Description.* The outdoor activity spaces include four different types of areas, accommodating four basic functions. A hard-surface area for outdoor sports (basketball, badminton, and racquetball) and occasional social activities (picnics and dances). Patio terraces for social activities such as conversation, parties, hanging out, extensions of indoor lounging and snacking. Outdoor projects spaces that extend the indoor programmed spaces for meeting, crafts, gardening, clubs and scouts. As well as children's play areas that also extend the interior activities of the programmed spaces with active, imaginative, adventurous playground experiences for juveniles.

(b) *Space Allocation.* See Table 7 - 101.

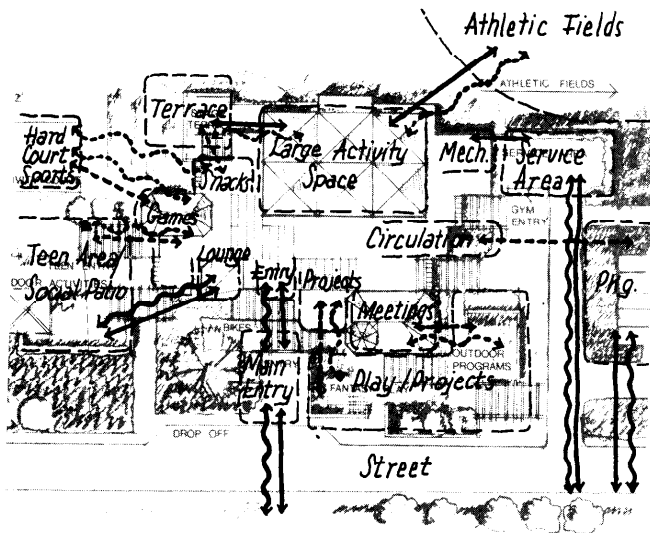
(c) *Relationships.* Each outdoor activity area should have direct access from the corresponding interior activity-space. The outdoor sports court and patios should relate directly to the drop-in area and the teen users, and should be accessible from the large space with its sports and social functions. The outdoor children's play and project spaces should cluster near the programmed spaces module. The various activity spaces should be screened by walls and shrubs for space definition and privacy, they should also be partly visible to passers-by.

(2) Entry Space

(a) *Description.* The entry space should facilitate pedestrian access and aid visitors in learning about the youth center. The area should be large enough for waiting and socializing.

(b) *Space Allocation.* See Table 7 - 101.

(c) *Relationships.* The entry space should be visible and recognizable from the street or driveway. Direct paths, accessible for wheelchairs, should lead from a drop-off area at the street and from the parking areas. From the outdoor entry space, activities in the entry and lounges of the building should be visible. The entrance path should be visible from the entry and supervisor's area.



Outdoor Module Relationships